evoted to
EXTILE
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EACHING
DYEING
RINTING
NISHING

UARY 14, 1944
ME 33, No. 4

AMERICAN
DYESTUFF REPORTER

Indispensable -

if fastness is paramount

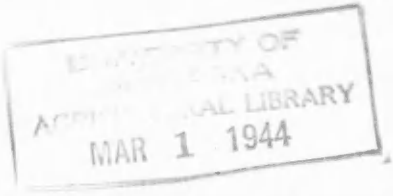
Practical experience during the past eight years has proven that *Solophenyl Fast Blue Green B L** is indispensable when fastness to light and washing are all important on Cottons and Rayons.

It is supreme among Direct Greens!

Purity of shade and dischargeabiliy are added features of this unusual dyestuff.

Samples and literature will be found most interesting.

Write . . .



* *Patented*

GEIGY COMPANY INC

89-91 BARCLAY STREET — NEW YORK—NEW YORK

Boston · Providence
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Geigy
Dyestuff Makers Since 1859

In Great Britain
The Geigy Colour Co., Ltd.
National Buildings
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AL PUBLICATION
of the
ROCEEDINGS
AN ASSOCIATION
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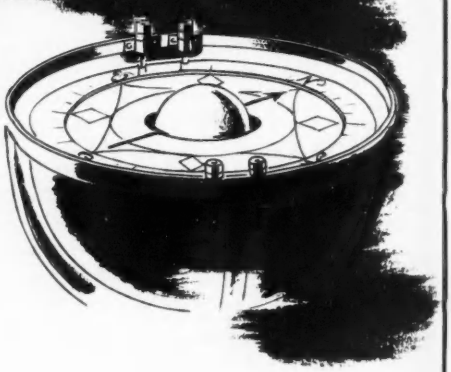
COLORISTS

is for COURSE

is for COMPASS



Choosing a course and following it safely across the uncharted and turbulent waters of a world at war calls for skillful business navigation.

To users of chemicals in industry, the shallow waters of wartime shortages and the shoals of uncertain replacements, verify that the only "compass" by which a true course can be maintained is... RELIABILITY OF SOURCE OF SUPPLY.

That is why here at Cyanamid we offer ways and means through research and product development by which wartime problems of supply and demand can be alleviated for users of chemicals. Your inquiry is invited.

AMERICAN CYANAMID
& CHEMICAL CORPORATION
(A Unit of American Cyanamid Company)
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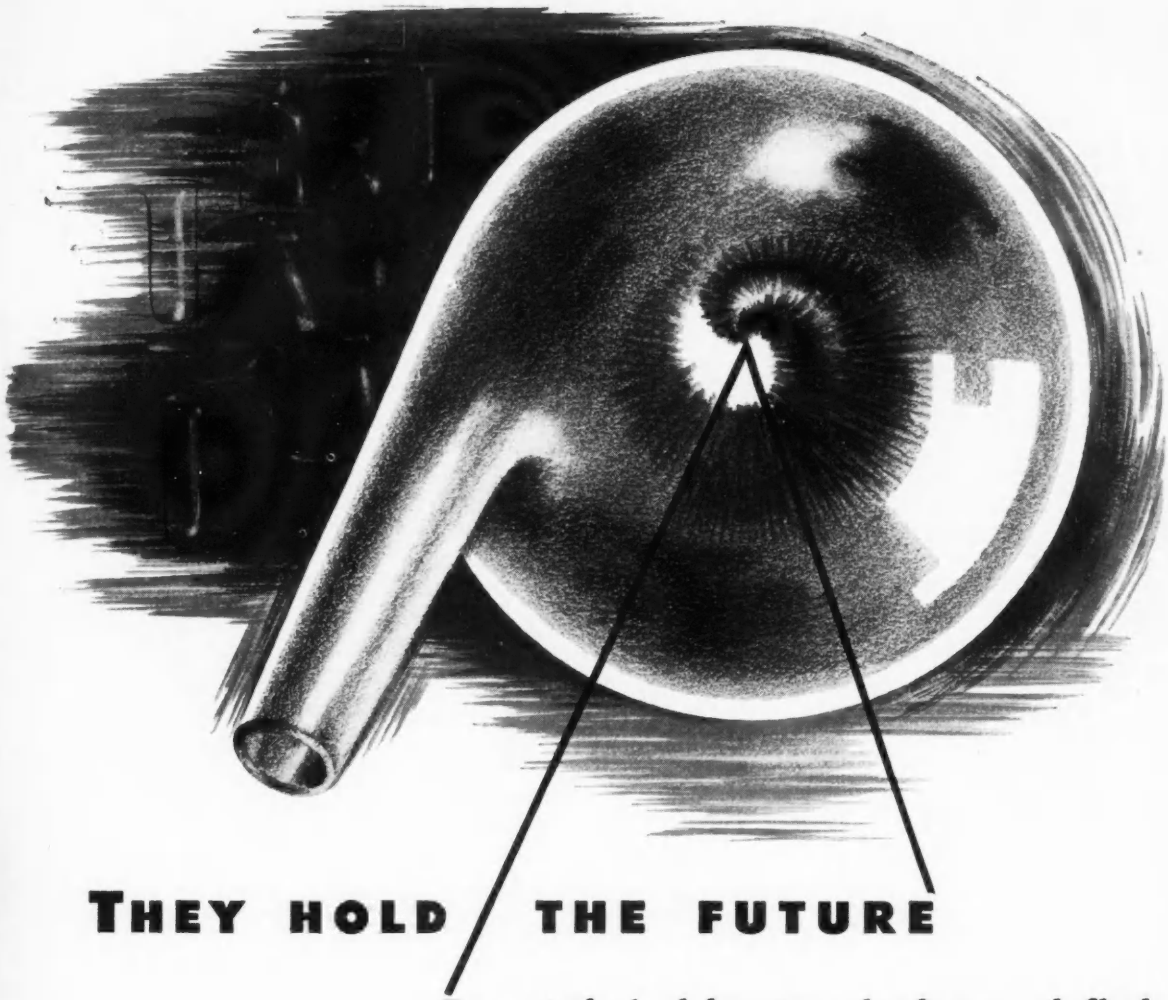
SULPHONATED OILS • PENETRANTS • FINISHES • SOFTENERS
SIZING COMPOUNDS • DECERESOL* WETTING AGENTS
AND OTHER SPECIALTIES FOR THE TEXTILE INDUSTRY
*Reg. U. S. Pat. Off.

American Dyestuff Reporter, Vol. 33, No. 4. February 14, 1944. Published every other Monday. Copyright, 1944, by Howes Publishing Co., 440 4th Ave. New York, 16, N. Y. Domestic subscriptions, $5.00; Canadian, $6.00; Foreign, $6.00 Entered as second-class matter, Nov. 6, 1919, at the New York, N. Y. Post Office, under the act of March 3, 1879.



THEY HOLD THE FUTURE

From today's laboratory beakers and flasks will come tomorrow's new fibers, dyestuffs, finishes and methods of textile processing.

The impact of these new chemical discoveries will be felt throughout the industry. To cushion the impact for you, Ciba's technical and research laboratories are constantly working, analyzing and searching in an effort to anticipate your problems and provide the answer.

Keep in close contact with your Ciba representative; he is a valuable source of dyestuff knowledge and new color concepts.

DYESTUFFS • CHEMICALS • INTERMEDIATES

CIBA

COMPANY, INC.

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NEW YORK

BOSTON · CHICAGO · MONTREAL · CHARLOTTE
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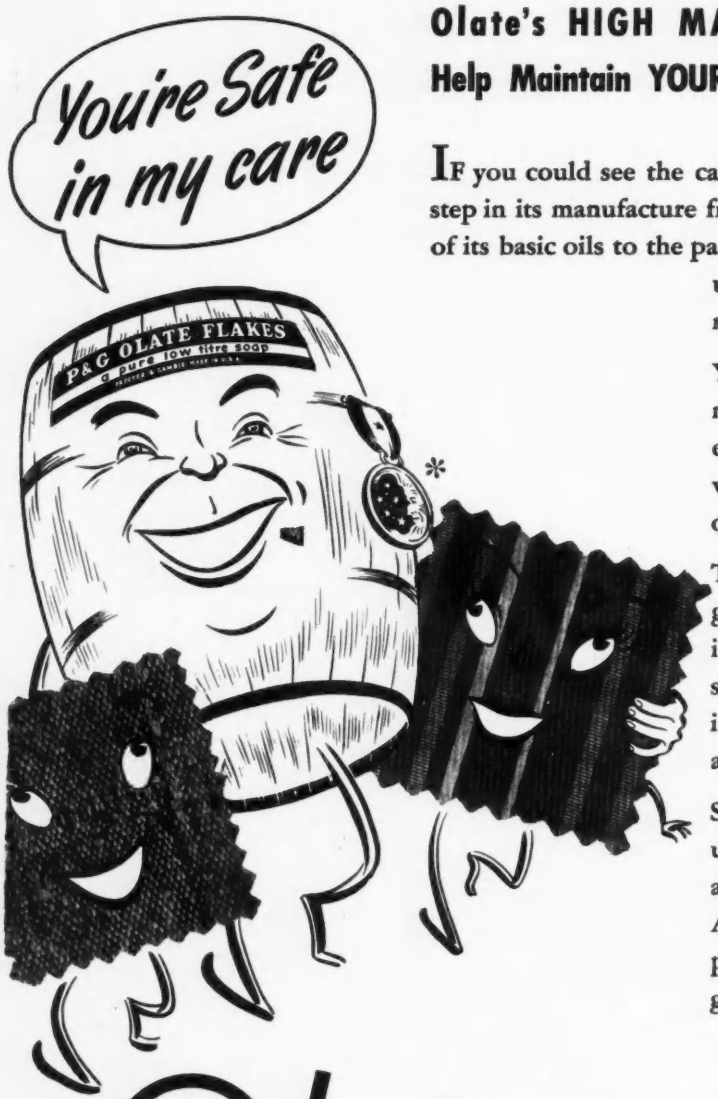
VAT DYES OF THE DOW CHEMICAL COMPANY

ACT NOW FOR WAR · · · *BUT* · · · PLAN NOW FOR THE FUTURE!

Maintaining

HIGH STANDARDS *for you*



Olate's HIGH MANUFACTURING STANDARDS Help Maintain YOUR HIGH PROCESSING STANDARDS

IF you could see the care with which Olate is made—at every step in its manufacture from the careful selection and refinement of its basic oils to the packaging of the finished product—you'd understand the real significance of high manufacturing standards.

You'd understand, too, why our strict maintenance of Olate's high standards of excellence are bound to produce a soap with the necessary qualities to meet your own exacting processing needs.

Thank these exacting processing safeguards for Olate's time-tested characteristics—its uniform purity . . . its ready solubility . . . its thorough yet mild cleansing action . . . its resistance to oxidation and rancidity.

Small wonder that today—when the unfailing performance of any processing agent is so vitally important—many of America's busiest textile mills are depending upon Olate to help "deliver the goods."

* Olate

the universal textile soap

* *A Product of*

PROCTER & GAMBLE

ONYX

*DOWNY SOFTNESS

ONYXSAN

THE STANDARD CATIONIC FINISH

For that soft, luxurious, downy handle and other various special effects, Onyxsan enables dyers and finishers to obtain remarkable results. The Onyxsan group of finishing agents are substantive to cellulosic fibers and produce a pleasing, wash resistant finish.

Your inquiries are solicited.

*For downy softness on all types of fabric, even the most delicate shades —use Onyxsan.

onyx

ONYX OIL & CHEMICAL COMPANY

JERSEY CITY, N. J.

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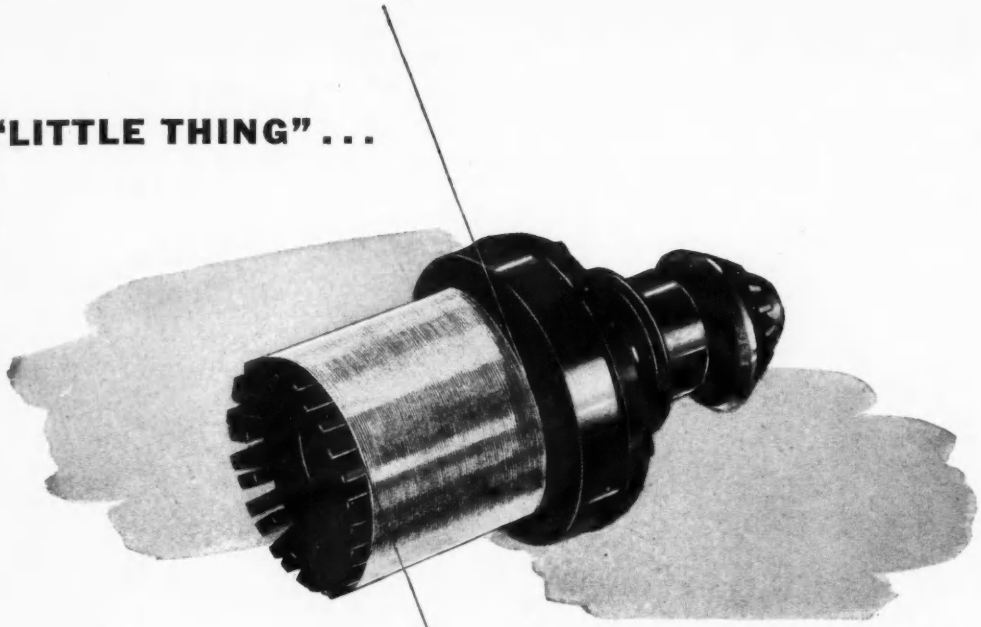
PERKINS
HOLYOKE
TRADE MARK REG.

There is no substitute for Perkins Quality

B. F. PERKINS & SON, Inc.
HOLYOKE, MASS., U.S.A.
LARGEST MANUFACTURERS OF CALENDER ROLLS IN THE WORLD

A "LITTLE THING" . . .



. . . BUT, OH MY!

Above is pictured the famous "Advancing Reel", a development of Industrial Rayon research and invention.

Just as an acorn makes a giant oak, this ingenious little reel built a huge new plant with intricate machines, blocks long. It gave the rayon industry a new standard of quality, "Continuous Process" Rayon Yarn. The yarn made by this new production method is so relatively knotless and free of broken filaments, that the cloth woven from it dyes evenly without streaks or filling bands, even in the difficult flat tones. And mill efficiency, on which profits depend, soars with the use of this trouble-shooting yarn.

The development of the "Continuous Process" is typical of a company which has long recognized that its greatest assets are not in just plants and inventories, but in the skill and acumen of its engineers and technicians—the men whose genius makes for textile progress.

Industrial
RAYON CORPORATION
MAKERS OF
CONTINUOUS PROCESS* RAYON YARN
AND Spun-lo KNIT UNDERWEAR CLOTH

*Reg. U. S. Pat. Off.

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CAMEL ☆ DYES

ACEKO
(Acid)

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(Direct)

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(Level Dyeing Acid)

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(Chrome)

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(For Acetate Rayons)

LAVOSAL
(Fast to Salt Water and Washing)

AMALTHION
(Sulphur)

SOL-AMIDINE
(Light-fast, Direct)

The complete Campbell line includes all dyestuffs for service fabrics and civilian needs

CHROMAZINE
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CHROMACID Colors for Textile Printing

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"Reporting for duty, sir!"

MODINAL* DN

speeds wartime production

SPEED UP and improve your wartime production! Modinal DN can help you attain greater efficiency and meet increased demands. It's surprisingly versatile:

In Scouring Woolens and Worsteds . . . Modinal DN reduces rinsing time and temperatures, eliminates blotchy dyeing and improves penetration. Results are uniform. You save time, steam, labor and water.

In Soaping Vat-dyed Cottons: Modinal DN obtains full shade development—often improves light fastness. Military colors—the khaki, olive, and green shades—are improved.

In Viscose and Acetate Rayons: Modinal DN for scour and dye bath improves penetration in rayons. Results are more uniform, finishing better. There is no soapy odor.

Get help from our experienced men on technical production problems. Gardinol Corp., Wilmington, Del. Sales Agents: Procter & Gamble, Cincinnati, O.—E. I. du Pont de Nemours & Co. (Inc.), Wilmington, Del.

* "Modinal" is the trade-mark used by the Gardinol Corporation to designate a group of its fatty alcohol sulfates.

MODINAL DN Fatty Alcohol Sulfates

THESE ARE SEE-WORTHY LEGS

Whether she's a smartly garbed WAVE or a citizen doing her part on the home front, every girl realizes that "See-Worthy" legs are an important part of her charm equipment. Stockings in rayon, cotton or lisle . . . all must have the proper, soft, sheer, eye-caressing smoky dullness. Today, to make the job of glorifying the most beautiful legs in the world doubly difficult, materials are limited, while feminine demand and criticism is not. Never have we found hosiery makers and dyers more needful of finishes to create sheer, lasting, salable hosiery regardless of the material used. To solve these problems, our staff has been working constantly. A talk with one of our field men will convince you that we have not worked in vain.

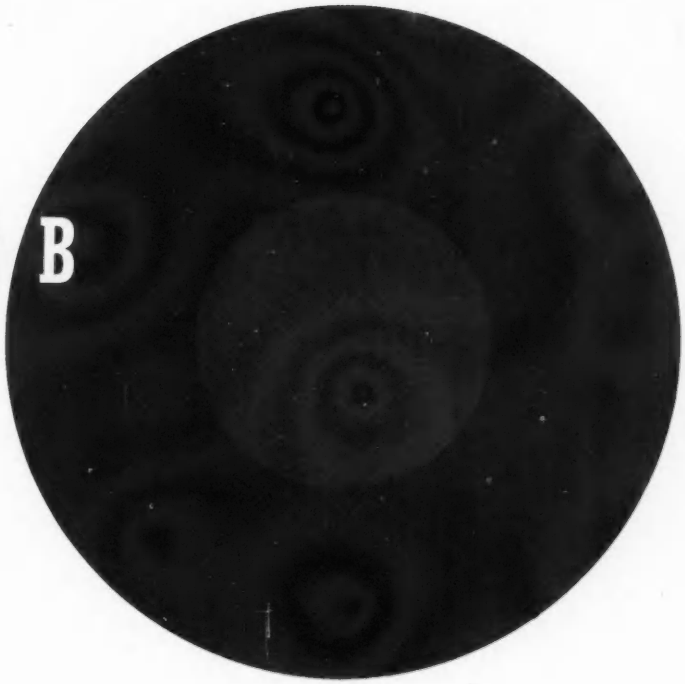
OFFICIAL U. S. NAVY PHOTO

W. F. FANCOURT & CO.

PHILADELPHIA, PA.

Solving Finishing Problems Since 1904
In the South, Howard A. Virkler, Greensboro, N. C.

Eastone* Red B



Eastone* Red B dyes cellulose acetate rayon a bright red with a bluish cast, which makes it unique among red acetate dyestuffs. Soft, neutral shades of pink are obtained by using light concentrations. On nylon, Red B produces a bright rubine shade.

Red B is reliable in its working properties. Level dyeings at temperatures as low as 140°F. are easily obtained. For both jig and box work, Red B is useful in dyeing shades which require good penetration and build-up characteristics at both high and low temperatures. General commercial fastness of Red B is good — particularly fastness to gas fading, crocking, and sublimation when steamed under pressure.

Eastone Red B is one of a wide variety of Eastman Acetate Dyestuffs, especially developed for cellulose acetate rayon. For information concerning these dyestuffs, consult our New York Sales Representative, 10 East 40th St., New York, N.Y., or write TENNESSEE EASTMAN CORPORATION (Subsidiary of Eastman Kodak Company), KINGSPORT, TENNESSEE.

EASTMAN ACETATE DYESTUFFS

* *"Eastone" is a registered trade mark and denotes a type of dye which is dischargeable, as well as usable for plain dyeing.*

Wofor klos bilong jufela solger luk all-same bush?

The South Sea native asks . . . in Pidgin English . . . "Why do your uniforms look like the jungle?"

Jungle uniforms worn by our boys mask their visibility against the tropical background and protect them from such hazards as malarial mosquitoes, poisonous thorn scratches . . . and just Japs.

We are proud that Stein-Hall sizing, finishing and printing materials are helping the Textile Industry to supply uniforms which make our fighting forces the best and most safely dressed in the world.

In spite of heavy war demands on our manpower, supplies and facilities, we shall strive faithfully to render you the same high degree of service as customary in peace times. If we fall short occasionally, we ask your indulgence.

And don't forget . . . *"Bayim mor faitim bonds!"* You can translate that one yourself.

* * *

If you'd like an original suitable-for-framing print of Brussel-Smith's wood engraving (top), drop a line to Stein-Hall.

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LONG ISLAND CITY, N. Y.

EST. 1866

A TEXTILE STARCH FOR EVERY TEXTILE PURPOSE

TWO NEW RAYONS FOR SHIRTINGS AND SPORTSWEAR HIT THE MARKET! WATCH THEM GO!

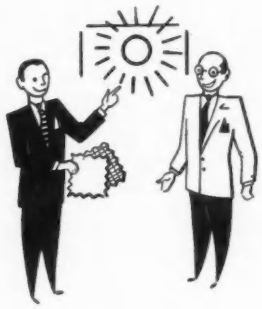
No. 21 of a series—from our files on the new "CROWN" Tested Plan

Launched under the CROWN Tested "green light"..."Headway" and "Signal" have all the answers for shirtings and sportswear!

The converters of this story...Labtex Fabrics...surely know a good thing when they see it. Of course, they had every reason to know those two fabrics of theirs were good. But more than that, they knew a good way to find out *how* good and to express this in plain language. They asked us to test them against the CROWN Test requirements.

And the results certainly clinched their confidence!

For "Headway" is a gabardine that really rings the bell for men's sports and dress shirtings. Made of 80% viscose and 20% acetate it has a dimensional restorability of only 1%! The second fabric, "Signal" also of 80% viscose and 20% acetate is right not only for men's wear but also for blouses, slacks and all kinds of women's sportswear. Both have top-flight construction and weaving. Both are finished by the now-famous Vatru-Set* process, developed by North Carolina Fabrics Corporation. Both go to market under the "green light"... the CROWN Tested tag which says "go-ahead-and-wash-it."



*T. M. of North Carolina Fabrics Corp.

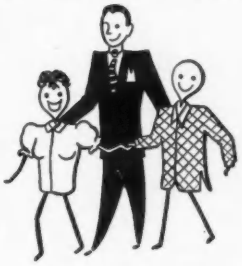
And here's why that green tag means just what it says . . .

Every dye lot of "Headway," the shirting fabric, meets these requirements:

Laundering temperature	**160°**
Dimensional restorability	**1%**
Tensile strength	**40 lbs.**
Resistance to seam slippage	**25 lbs.**
Resistance to sun fading	**40 hrs.**

Every dye lot of "Signal," the sportswear fabric, meets these requirements:

Laundering temperature	**160°**
Dimensional restorability	**2%**
Tensile strength	**35 lbs.**
Resistance to seam slippage	**15 lbs.**
Resistance to sun fading	**40 hrs.**



That's proof indeed that Labtex's new fabrics are on the beam!

Here's further concrete evidence of the value of the CROWN Tested Plan to any converter who wants to establish the stability of his rayon fabrics. May we show what this plan can do for you?

A Postwar Plan that Pays Off Right Now

Yes, that's one of the big advantages of the CROWN Tested Plan. It will benefit you now . . . and in the postwar market too. For on the record . . . this plan points the way to better sales through better rayon fabrics.

If you have a specific problem in handling rayon, perhaps we can help you solve it. The CROWN Tested facilities are always at your disposal. Come in and talk them over with us at your convenience.

"CROWN" TESTED RAYON FABRIC

NEW INFORMATIVE LABELING

Consumer Satisfaction under the Three Tag System

A better way to buy Rayon Fabrics—This identification is awarded only to fabrics containing CROWN rayon, after they have passed the CROWN Tests for serviceability.

"Crown" Tested Rayon Fabric

Reg. U. S. Pat. Off.

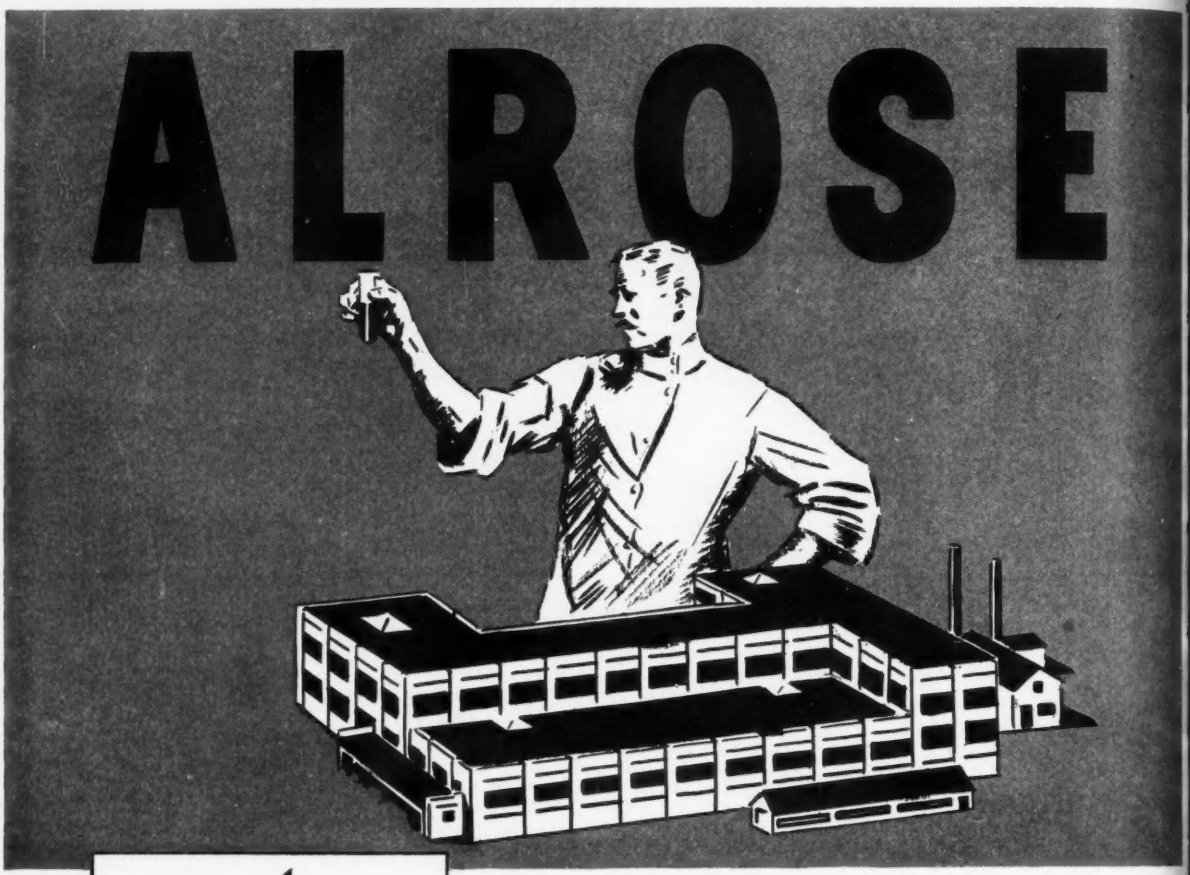
This is a stabilized fabric. Tests predict it will not change visibly in color or in texture, nor in size more than 1%, if instructions are followed. Samples of every dye lot of this fabric have been tested for stability and strength, according to minimum requirements set and maintained by

AMERICAN VISCOSE CORPORATION

Producer of CROWN *Rayon Yarns and Staple Fibers*

Sales Offices: 350 Fifth Avenue, N. Y. C. 1; Providence, R. I.; Charlotte, N. C.; Philadelphia, Pa.

ALROSE



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Flame Retardants
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Glycerine Substitutes
Synthetic Waxes
Emulsifiers for Oils and Waxes
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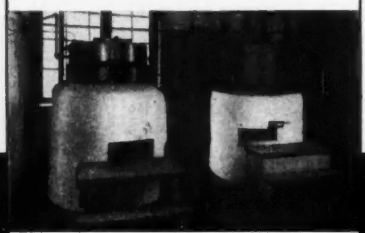

Showing Alromine Unit for making Cationic Softeners.

Dedicated to Progress in the Textile Chemical Industry

Somewhere in your plant there is a job that can be done better, faster, more economically by a product of The Alro Line.

Why, — you ask? Simply because Alrose has dedicated 15 years to the creation and manufacture of textile chemicals that have enjoyed wide recognition throughout the entire industry.

In a new, modern laboratory, a well-trained staff of research chemists concentrates exclusively on this work. These facilities combined with the help of experienced manufacturing technicians form the team that produces so many Alrose "trail blazers".

Investigate to-day; find "that process that can be improved." Write the Alrose advisory service about it. They may help you solve your problem in an entirely different way. Address Dept. J

ALROSE CHEMICAL COMPANY

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PROVIDENCE, RHODE ISLAND

Through the Gateway to the South

from our plant at Charleston, West Virginia, WESTVACO TEXTILE-GRADE CAUSTIC SODA is being speeded to an ever-increasing number of Southern mills and bleacheries.

Uniform in analysis, car after car, WESTVACO TEXTILE-GRADE CAUSTIC SODA gives excellent, low-cost results in wet processing.

Throughout 1944 we confidently expect to continue to provide Westvaco caustic soda users in the Southern Textile Industry with their full requirements, both as to quality and quantity.

Westvaco Textile-Grade Caustic Soda

Uniformly High Quality from
a Conveniently Nearby Source

Liquid • Flake • Solid

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Westvaco
CHEMICALS

WANTED

We could be wishy-washy about this, and say "please"—but instead, we will come right to the point. We want, we invite—and just plain ask your consideration of "Cravenette" water repellents.

Here are the facts about our water repelling preparations for use in your own plant. For example, our "Cravenette" CBC imparts water repellency to all-wool, or all-cotton fabrics by the one-bath method. It is stable under difficult conditions and wide temperatures. It is accurately compounded and liquid at high and low temperatures. It may be applied either from a washer or a standing bath; is odorless, and does not perceptibly effect the feel or looks of the fabric.

But what would be the value of all these virtues if your customers were unaware of them? There, sir, is the extra merit in "Cravenette" water repellents which you get at no extra cost. The use of the trademark "Cravenette" to identify the water repelling treatment given to your fabrics will assure the confidence that during more than 50 years has been built up among manufacturers, merchants, and the public. Yes, we want your consideration—and so do they!

If you would like a sample of our "Cravenette" water repellent, or other particulars, we will be glad to comply promptly!

Your fabric treated with

REG. U.S. PAT. OFF.

CRAVENETTE

water repelling preparations

SHEDS SHOWERS

"CRAVENETTE" is a trademark of the Cravenette Co., U. S. A., manufacturers and sellers of water repelling preparations. The Cravenette Co., U. S. A., and its licensed agents, apply these preparations to fabrics and garments.

CRAVENETTE CO., U. S. A.
CHEMICALS DIVISION
8th and Madison Streets, Hoboken, N. J.

This "SMEAR CAMPAIGN" Saves Soldiers' Lives!

In the treatment of malaria, as in pneumonia, positive identification of the presence and the particular type of parasite is the most helpful first step to the cure. Only positive diagnosis of BOTH the presence and type of malaria is by blood test using the thick-drop technique . . . thick smears stained to reveal the particular parasite by its shape, size and pigmentation.

For this invaluable malaria pathology, NATIONAL GIEMSA'S STAIN is being used successfully on troops coming out of the malaria-infested areas.

So again, National, as an important producer of anti-malarial QUINACRINE and malaria diagnosing GIEMSA'S STAIN, is performing a noteworthy service in helping to reduce the human cost of reconquering the tropics.

NATIONAL ANILINE DIVISION

ALLIED CHEMICAL & DYE CORPORATION

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PROVIDENCE SAN FRANCISCO ATLANTA PORTLAND, ORE.
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PERMA-FIX*

for direct colors

NEW! This unusually efficient compound fixes direct colors on cottons and rayons. It greatly reduces bleeding and crocking—produces a soft hand and can be used to replace fixing salts. PERMA-FIX does not separate or precipitate in the presence of salt.

We suggest your immediate investigation of this product.

REFINED PRODUCTS COMPANY

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*Reg. U. S. Pat. Off.

*PERMA-CIDE • PERMA FIX • PERMA WET • PERMA PAR R • PERMA PAR K • PERMA PAR SOL • VAPOLINE

Pioneering
WITH Pigments
-one of a series of developments illustrating the advantages of Aridye* pigmented colors in new and significant applications

WHY CAMOUFLAGE STRIPS ARE *Pigment-Dyed*

Camouflage strips, which are made of burlap and osnaburg, must be finished and dyed to meet government specifications covering penetration, weather-fastness, mildew resistance, gloss, imprint, solubility, spontaneous combustion and infra-red reflectance.

Because of the infra-red reflectance, weather-fastness, and the difficulties of handling burlap, these specifications present unusual problems. Most conventional dyestuffs have low reflectance of infra-red rays, and their presence would be detected by the enemy through the use of infra-red photography. Camouflage strips pigment-dyed with selected pigments, however, elude detection by infra-red photography even though they are made of burlap. And they meet the most stringent weather-fastness requirements!

Camouflage strips, therefore, call for pigments — and finishers have chosen Aridye* camouflage colors to finish more than 50 million yards of this type of fabric.

Whenever fastness requirements are very rigid — when extreme lightfastness and washfastness are wanted, think of pigments. Then weigh the ease of application and the decision is likely to be in favor of pigments rather than conventional dyestuffs.

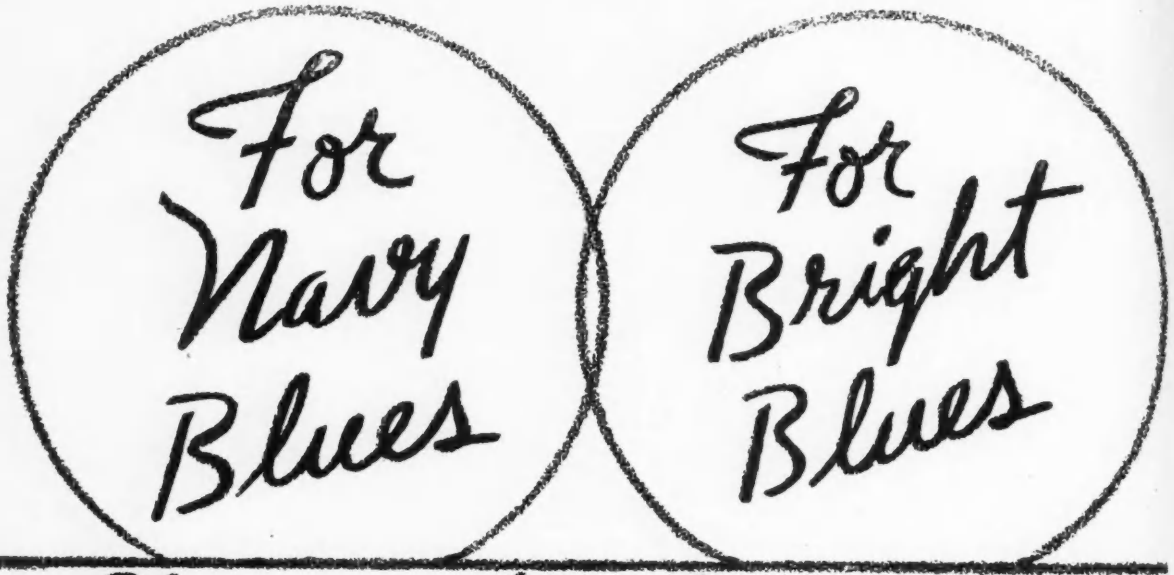
After the war, you will face new dyeing problems. Be ready to consider pigments as a possible solution. For complete information about pigment colors, or for technical assistance in their application, consult the pioneers in pigment experience and research — write to Aridye Corporation, a subsidiary of Interchemical Corporation, Fair Lawn, New Jersey.

An illustrated, detailed folder has been prepared on the dyeing of camouflage strips with Aridye pigment colors, and will be sent without obligation to all finishing plants requesting it. Send for your copy today.

*Reg. U. S. Pat. Off.

Aridye TEXTILE COLORING MATERIALS

ARIDYE CORPORATION • SUBSIDIARY OF INTERCHEMICAL CORPORATION • FAIR LAWN, N. J. • ROCK HILL, S. C. • PROVIDENCE, R. I.



Pharmasols

Blue GNXX
Blue GDNN

THESE azoic colors, for printing cotton, linen or rayon, produce Navy Blue of good fastness at a low cost. In combination with the Pharmasol Yellows they produce deep Browns.

PHARMASOLS are stabilized solutions, adjusted to the most practical concentration, which can be easily applied with a maximum of efficiency.

PHARMASOLS do not decompose and thereby they overcome the otherwise problems of troublesome dissolving.

Indigosol

BLUE IBC

THE outstanding soluble vat color for producing bright Blues in any depth, of excellent fastness, is Indigosol Blue IBC. It is suitable for dyeing, padding and printing on cotton, linen or rayon (excepting acetate fibres) where maximum fastness is required.

Indigosol Blue IBC is an important member of the group of very fast Indigosols, all of which are readily soluble and easily developed.

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AMERICAN DYESTUFF REPORTER

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How Can an Army Truck Influence Textile Dyeing?

LOOK AGAIN at the next army truck you pass—a drab and somber looking paint job protects its robust hide.

Stop and consider the wherefor of that paint job. That color is not a matter of accident or economy—it's O.D. camouflage paint made especially to blend with the surrounding terrain, and it possesses a special virtue—its infra-red reflectance characteristics match, within close limits, those of nature's foliage.

The research and application laboratories of Calco have spent much time and effort in the development of dyes and pigments for this purpose, and have thus acquired a fund of knowledge on the science of camouflage.

The scope of study devoted to the chemistry of color in these laboratories is, we believe, unrivaled in the dyestuff industry. Now answering pressing war problems, these laboratories also continue to serve their civilian function.

Textile dyers have long been familiar with the practical application of this research through Calco Technical Bulletins. These studies and applications are endless.

With an eye to converting recent developments to postwar civilian use . . . our laboratories are studying completely new lines of dyes and technics for their application. They will re-define present standards for fastness to sun and cleaning. That's just one phase of Calco activities for its textile customers. We'll report each development as it's ready . . . for you.

P. S. FOR TEXTILE PRINTERS:

If you are printing acetate fabrics by roller or screen, you will find that Calco has excellent colors for your line. Among them are: Calconese Brilliant Orange 5R, Scarlet GC, Red GG, Bordeaux Extra, Yellow GC, Brilliant Scarlet BN.

Calco Chemical Division
American Cyanamid Company

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FEBRUARY 14, 1944

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CALENDAR OF COMING EVENTS

Meeting, Rhode Island Section, Providence Engineering Society, 195 Angell St., Providence, R. I., February 25, 1944. Speaker: Henry E. Millson, Calco Chemical Division, American Cyanamid Co., "Queer Forms of Light" (illustrated).

Meeting, Philadelphia Section, Engineers Club of Philadelphia, 1317 Spruce Street, Philadelphia, Pa., March 10, 1944. Speaker: William A. Wolhar, Rosemary Manufacturing Co., Roanoke Rapids, N. C., "Screen Printing," supplemented by motion pictures. Note change in date and place.

Meeting, Piedmont Section, Poinsett Hotel, Greenville, S. C., March 25, 1944.

Meeting, Council, New York City, April 21, 1944.

Meeting, Research Committee, New York City, April 22, 1944.

Meeting, New York Section, Downtown A. C., 19 West St., New York City, April 21, 1944.

RESEARCH AND DEVELOPMENT IN FABRICS FOR VICTORY*

COLONEL ELSMERE J. WALTERS
Executive Officer, Philadelphia QM Depot

WHEN your committee extended an invitation for this meeting, I entertained hopes of discussing research problems such as the use of sulfur dyes, impregnated clothing, etc. Having prepared my remarks along those lines they were submitted to the military censors a few days ago. What was left of my remarks when they were returned would not properly make up a report. If what I have to say sounds peculiar, please remember the spot a man in uniform is on.

I don't wish to fly under any false colors or impression that I'm a textile expert because of my connection with the Philadelphia QM Depot. But I have had a considerable amount of experience in engineering and have conducted and supervised several research programs. I've had enough of research and development to deeply appreciate your association; its aims and its goals.

In the Army one is called upon to do many things. Until a short time ago I was in command of a regiment training in the mountains of Wyoming. The climate out there, especially in the winter—and I spent one winter there with my regiment—is to say the least, rugged. I can really assure you, I have a deep and personal knowledge of the kind of clothes it takes to keep warm and comfortable when the temperature is below zero and the winds find every hole and crevice.

In discussion with members of the Bureau of Standards over methods of testing and interpretation of results, they always ended with the statement:— "The best test is the test of time and use." If you want to really know about a special kind of clothing, try living in it for a while, especially without the benefit of heat and air conditioning. A straddle trench in zero weather, possibly surrounded by a piece of canvas, isn't exactly the place to read the morning paper. You soon find out how hard it is to get in and out of one-piece working suits or to handle difficult buttons with frozen fingers.

I deeply appreciate being given the opportunity to speak to you tonight, on the occasion of an Army-Navy program, and to meet so many of you whose interests and accomplishments have been long recognized as outstanding.

Many of your membership have shown a full measure of spirit and devotion in meeting the demand for clothing and equipage for the Armed Services. I refer to the chemists and finishers whose efforts have produced textiles in quantities which a few years ago were not anticipated nor even imagined.

It is with pride that one can look back on the speed and proficiency with which the textile industry adopted a war-time schedule, knowing that its products would be critically evaluated under difficult circumstances and its routine subjected to drastic change when required. Today, yardage totals have exceeded the capacity of the adding machine, with a quality and promptness of delivery that make our armed forces the best clothed in the entire world. All of this was accomplished in the face of many obstacles and hardships. Every government agency dealing with industry knows the labor problem created by the loss of man-power to draft boards, the shortage of skilled technicians, and the problems incident to the training of new personnel to replace individuals attracted to the heavier industries. And in addition to meeting the special needs of the military task forces by the splendid combined efforts of weavers, finishers and clothing manufacturers, one judges from newspaper accounts that your goods have also reasonably supplied civilian markets. I say this with respect for the unique production methods which you have placed into effect that have simplified dyeing and finishing methods by making many of the stages of treatment one-bath handlings rather than two or three separate treatments, or continuous rather than intermittent as practiced in the past.

Much consideration is given by military authorities to ideas and developments that contribute in any way to the safety and comfort of the armed forces. In asking for industry cooperation, your patience may often have been taxed to the limit of physical capacities. Changes now, however, are brought about by the rigorous test of practicability on the battlefield. A new demand for changes is based upon the hard school of experience. Your products are performing in all parts of the world under many unusual environments. I would not like to venture too far, but if coming events cast a shadow before them, then we shall probably enter a post-war era of brand-name promotion that will tax imagination. You know your industry is one of the best advertised and has performance records based on the re-orders of a satisfied customer—the United States Government.

What I have said may sound to some of you like the

*Presented at meeting, New York Section, December 3, 1943.

delivery preceding an Army-Navy "E" Award. But I want you to know that your problems and virtues are understood and appreciated by the staff of the Philadelphia Quartermaster Depot.

At Philadelphia, the Army maintains a large textile procurement staff. It is, perhaps, not quite the size of a large retail establishment. However, from an operating standpoint, this Depot buys more textiles than would be required to clothe the entire population of Greater New York City, giving each individual the benefits of a complete summer and winter wardrobe. To maintain this staff a great deal of careful planning has been involved.

In 1940, Congress passed the first peace time conscript act providing for military training. The increase in our armed forces required a great deal of expansion of our depot facilities. The Quartermaster General at that time decided to create the needed modern facilities at the Philadelphia Depot for its role in handling textiles and clothing. I well remember the conferences over this business of reconstructing the Depot, having been the Officer in Charge of Design for construction for the Army at that time. It was decided to construct, among other buildings, a separate Research and Development Laboratory where our problems could receive the proper attention in an atmosphere conducive to proper results. Some officials stood out for a laboratory room in the Inspection Building. I stood hard and fast for a separate institution in which all the required facilities could be installed. As you know this laboratory is quite complete, with cold rooms, hot rooms, rain rooms, etc., a plant in which I think we can take considerable pride. It now operates, with a splendid staff of technicians, as an inspection control function and as a research institution for solving problems for future production.

The Research and Development staff of the Depot also conducts research studies and testing, develops new or improved products, and prepares specifications for textiles and clothing under the technical direction of the Office of The Quartermaster General. The studies may originate in new military requirements, in the investigation and correction of difficulties encountered with existing materials or test methods, or in the study of new materials, processes or finishes.

It is interesting to look back now to the time when the enormous, seemingly next to impossible demands were made upon the Depot during the first stages of the war. I was not at the Depot during that time, but that history has been related to me. Directives—simply orders from Washington to buy—streamed into Philadelphia. They always had one thing in common: the material was needed the day before the directive arrived. Yet, as I see the situation in retrospect, the Depots bad moments, must have been a Sunday school picnic compared to yours, in the textile industry. We received almost daily such orders as:

1. Eliminate vat dyes from all possible items
2. No more burlap can be used for baling
3. Silk is to be reserved for manufacture of parachutes, etc.

We passed a great many of these headaches on to you. You have yourselves to thank if your sons in the Army are well clothed today, because materials which were procured in that hectic period are the ones being issued for the most part today. With you men around, there always was someone who would step up and say "Let me help solve that problem for you." Let us take, for example, the vat dye conservation order. It certainly is a far cry from the fastest known cotton dyes to what might have been considered among the least fast. Someone had to make direct dyes do tricks when the linings and socks were changed. The elimination of silk from the ribbons and banners has actually given a much better product all around. The silk problem was twofold in character. The silk mill designer gave us the benefit of his experience with the finest denier rayons, and pounded so many picks and ends into the fabric, attempting to simulate the silk product, that he ended up with a banner cloth and ribbon which was definitely superior. Then, apparently not to be outdone, the dyer gave us hitherto unknown excellence in fastness for these items. The so-called substitute was better than the best we previously had, and we probably will never return fully to Tojo's silk.

Nearly all of the services needed osnaburg. It was wanted as a substitute for the burlap the Engineers were then having mildewproofed in a large number of your plants. The osnaburg was also needed for camouflage purposes, and thus the demands piled up. It seemed that when the situation looked the blackest, production came from nowhere, and adjustments for one's needs were made. I do not mean that all of our packing requirements have been met with osnaburg, but it helped over some mighty rough spots.

The textile chemical industry—if it may be called that—has accomplished wonders under the most difficult conditions. You have succeeded in making useful gains in the industry by converting many substitute raw products to useful materials for after-treatments. At least 5 or 6 new water repellents have been developed in the past year. We know, for another example that many high priority chemicals have been made unavailable to you because of higher priority in the medical field. To have overcome these obstacles should be a source of great pride to each and every one of you. I am sure you have not received the favorable publicity such accomplishments deserve.

An example in the development of a new product is certainly the mildewproofing treatment. Mildew, with few exceptions, has caused little trouble in the United States. The Quartermaster Corps received an SOS from the South Pacific, to the effect that some fungus was growing on cotton fabrics, causing deterioration. Mildew, gentlemen, *became a very, very stern subject overnight.*

The problem was turned over to the chemical industry, and in a short time production began on chemicals sold under the description of mildewproofing compounds. In a short time these agents saved the government the efforts and expenditures of replacements for tropical issues. I hope the pharmaceutical interests are as successful in the development of "penicillin."

The Research and Development staff investigates new trade compounds and finishes; interviews representatives of the various industries, and provides a testing laboratory where new products which are developed can be evaluated for mili.ary characteristics that might improve present specifications.

The work of that staff may well be illustrated by its study of the resins for use as fabric-coating materials in the manufacture of rainwear. By that study, the Army was able, immediately after Pearl Harbor, to switch to those materials as a substitute for rubber, thereby releasing that suddenly critical material for other more critical requirements for which substitutes were not available.

It seems that hardly a day goes by without some announcement of a post-war world, wherein industry will meet unknown conditions by stream-lining people's habits. In your industry, chemical fibers are being predicted to outmode many of the natural ones, and if accomplishments are similar to the traditional changes which took place in the hosiery fields then it is reasonable to assume your aim is in the right direction.

New finishes have been, and are being developed to impart special qualities to fabrics so that it will no longer be an easy task to identify materials by their feeling or resiliency. Fabrics have been made fireproof to withstand repeated launderings, and water-repellents have been marketed for the practical life of the cloth.

In closing I would like to say a few words about our country and its prinicples.

From the dawn of history to the crucifixion, successive civilizations and their respective cultures germinated, flowered and died. Each one of these cultures, Babylonian, Egyptian, Greek and many others were fundamentally based upon the favored few holding the masses in virtual, if not actual, physical and mental bondage. The cultures degenerated because the system precluded the infusion of new blood from the masses. They stagnated and rotted in a complacency born of conservatism, a desire to maintain those in power on a status quo basis. Each culture, though probably better than the previous one, died, engulfing the populace in mental darkness while human progress took time out to regenerate itself from the masses.

When the three wise men were guided by the Star of Bethlehem to the manger they saw an Infant that was to bring expression in the world to a new idea. The idea was that *all* men are the Creator's children and not just a favored *few*. That idea, gentlemen, was new at that time and marked the most important step forward in the progress of mankind to that date. The Roman Empire bloomed and came to full flower. In that political structure many advancements were recorded. People were more fully represented than ever before. But there still was the premise that certain humans should remain in bondage. Rome rotted and fell. Other nations rose, flowered and disappeared. With each fall, culture and human progress suffered through a period of darkness until the mind could adjust itself to the task of advancement.

In 1776 in a new world, in a field unhampered by long, local traditions of rule and be ruled, a people declared themselves free. Free upon the premise that all men shall have equal rights, that there shall be no ruling class, that there shall be no class held in mental bondage. Free, that there shall be no limit to the thought and expression of human minds for the advancement of the people. Free to constantly regenerate the processes of living and liberty. Free and thereby eliminate a ruling class to eventually rot in its own degeneracy. We believe in America that as long as that inspired document of ours, the Constitution of the United States, prevails, there need be no more periods of darkness and groping to re-establish the progress of human beings.

There has come into the world the ideology that men are born for the state only; that all people of a nation shall be slaves to the state. Slavery in any form cannot be tolerated or we go back once more to the halting, hesitating method of human progress, with long periods of darkness between moments of light. We are now fighting to forever stop these periods of darkness. Will we win? Let us review a bit of American history. When Bon Homme Richard met the Serapis, did John Paul Jones, in a sinking ship, surrender? He boarded the Serapis and took her over. In 1848 when the Mexican commander of 25,000 men demanded the surrender of 6000 Americans, did they lay down their arms? They outfought that Mexican army. Remember a short time ago, two Japanese naval columns bore down on Guadalcanal in the darkness. An American warship steamed straight between those two columns, her guns firing port and starboard to the utter and complete confusion of the Japs. This American ship steamed away under its own power after having sunk several Japs and leaving them blindly firing at each other in the darkness. When this war started what did American business do? Did it fold up? It did not. It converted itself to munitions making almost over night with wonderful spirit.

You can't break the spirit of free people. You can't even bend it.

No ranting, rug chewing Schickelgruber or Tojo will ever make a dent in the spirit that is America.

As long as the stars and stripes float proudly in the breeze o'er the land of the free and the home of the brave. God Bless America.

RESEARCH AND DEVELOPMENT IN FABRICS FOR VICTORY*

REAR ADMIRAL W. J. CARTER, SC, USN
Assistant Chief of the Bureau of Supplies and Accounts
Navy Department, Washington, D. C.

WHEN Abraham Lincoln was practicing law in Springfield, Ill., he came in late at a political meeting one night and took a seat on a bench at the rear of the hall, placing his tall stovepipe hat on an empty seat in front of him. Another late arrival, a woman of substantial proportions, shoved her way into that row and settled herself down squarely upon Mr. Lincoln's hat. When she felt it crush beneath her, she arose, looked back aghast at the havoc she had wrought, then up at the gangling man behind her, and said: "Oh, Mr. Lincoln· I'm afraid I sat on your hat." He surveyed her ample beam with a quizzical eye and, as he reached for his ruined beaver, he drawled: "Madame, I could have told you before you sat down that it wouldn't fit."

That story occurred to me as I was considering what I might say to you tonight that would fit this occasion and not be as flat as Mr. Lincoln's hat. It is a greatly appreciated privilege to meet with you gentlemen. I am happy to be here. Organizations such as yours are of definite value to the Navy. Many of the research men in this room have contributed importantly toward the solution of naval supply problems. We have a subject of deep mutual interest in the one suggested for my remarks tonight—"Research and Development in Fabrics for Victory."

There are many reasons why the Navy needs constant and continued research in fabrics, particularly those fabrics used in the development of special clothing. Clothing is the most important personal equipment of our sailors. It is his personal armor, which should give him the greatest possible protection under every conceivable condition with the minimum interference, with bodily movement. To a very great degree a sailor's health, comfort and fighting efficiency depends on his clothes. That is why the Navy has conducted and is continuing to conduct exhaustive researches in the development of special utilitarian clothing to meet the occupational needs of our personnel throughout the globe.

Demands of this global war have revolutionized clothing needs of the Navy. Our fleets are operating in all the Seven Seas and our fighting men must be properly clothed for efficient action on the surface, under the sea and in the air from the Arctic to the Tropics. There is a tremendous amount of research involved in developing suitable clothing to protect our fighting men afloat in the widest possible variations of climatic conditions.

Exigencies of this war also have required that the Navy clothe large numbers of men to work and fight ashore, in the jungles of tropical islands of the South Pacific and in blizzards of the far North. Our Construction Battalions—the famous Seabees—are among the first to move into the advance base areas. They are up against all kinds of weather variations, but must be clothed to allow for freedom of movement needed in their fighting and construction work.

The Seabees claim that now when the Marines land the Seabees are there to greet them and ask: "What's been keeping you guys?" That, of course, is a bit of exaggeration to needle the Marines. They like to tell the Seabees of an incident at Guadalcanal when a Marine sniper was taking a heavy toll of a Japanese regiment. The Jap colonel sent an entire company out to silence that sniper. Later a wounded captain—the sole survivor of that company—staggered back to the Jap headquarters and reported to the colonel. "So sorry—there were two of them!"

Yes—the Navy has a tremendous research problem in developing the clothing to protect our fighting men from Arctic storms, equatorial sun, and all the variations of climate around the world—and that clothing is designed to provide the maximum camouflage against both sea and land backgrounds. Protective coloration is a new science that textile chemists and colorists have played a major role in developing.

The textile industry and affiliated organizations such as the American Association of Textile Chemists and Colorists have cooperated wholeheartedly with the Bureau of Supplies and Accounts of the Navy Department in working out the research problems presented by the Navy's clothing needs. One instance of that cooperation is in the development of alpaca lining as a substitute for felt or sheepskin in special winter clothing. Sheepskin is warm but too bulky. Felt is not warm enough. The textile industry submitted to the Navy many samples of pile fabrics. These were tested against samples of sheepskin for warmth. As a result of these researches—with many tests conducted in cooperation with the Army—alpaca linings have been adopted for special winter clothing which meets Navy requirements for warmth, weight and quick-drying properties.

Special winter clothing for the Navy must be satisfactory under conditions much more severe than normally encountered in civilian life. Ordinarily those conditions are far more severe than the Army encounters. Our gun crews and patrols on the Murmansk run, for instance, must

* Presented at meeting New York Section, December 3, 1943.

be kept warm and dry on ice-sheeted decks. Temperatures may suddenly drop toward zero. Terrific gales arise and salt spray freezes where it hits. Add to a 50-mile gale a 40-knot speed of a destroyer, for example, and there is the possibility of clothing having to withstand the equivalent of a 90-mile gale, at temperatures that would quickly freeze any inadequately protected man. That gives you an idea of what Navy clothes are up against.

Let's consider the problem of rain clothes. An ideal garment should stand the heat and humidity of the Bougainville jungles and the high temperatures of a ship's hold in equatorial seas, and the frigid temperatures of the North Atlantic or Alaskan winters. We haven't yet attained that ideal, but we're making some excellent progress.

"Oilskins" always have been a traditional Navy rainwear. They have certain shortcomings such as tackiness in hot climates and stiffness and cracking in cold. Rainwear of single and double texture synthetic resin coated materials were adopted to supplement the "Oilskins," but these, too, had certain disadvantages. We know a great deal more about rainwear than we did a year ago, but there are still problems to solve. One of the most important sources of that knowledge has been the industry itself, which has placed its experience and its research staffs at the disposal of the armed forces. The practicability of industry has been of great aid to supplement the sometimes academic results of the laboratories.

It has been imperative to set up many new standards for testing to simulate conditions under which items of clothing actually are worn, but you gentlemen, of course, realize that many faults which were not apparent in laboratory tests are brought out the "hard way" through actual wear. This fact has been a challenge to the many testing laboratories, which they gladly met, and has brought about much more up-to-date and practical laboratory testing. This developing of testing techniques, however, still is in its infancy. For example, the ordinary tests for water repellency, although suitable for mill control, are of little value in predicting the behavior of a new fabric or garment under much salt spray a slide fastener must withstand in a conditions of wear. No one yet knows exactly just how laboratory test in order to withstand a year's wear in the North Atlantic, South Pacific, or in the Aleutians.

We thought at one time that we had the problem of rainwear fairly well licked, for laboratory tests showed good results.

But when the Seabees and Navy landing parties put those garments to the test under months of steady rain in the Aleutians, we found out that this rainwear was given the beating that work clothing takes. We had not considered the amount of rough wear that these garments would face as our men carried heavy supplies ashore. Such work, in many instances, quickly wore away the water resistant parts of the garments on the shoulders and other places—sometimes making them useless as rainwear within a week. We are on the way to solving that problem now. Tests indicate that the new butyl rubber probably will make the best double texture material developed so far, and the manufacturers of "Oilskin" have discovered how to overcome the undesirable features previously experienced from that type.

Research on Navy clothing is carried out in many places. The facilities of many laboratories are available to us, and are utilized as needs develop. Foremost among these is our own Naval Clothing Depot in Brooklyn, the Research Institute of the Naval Medical Hospital at Bethesda, Maryland, and many Government centers of research, such as the National Bureau of Standards and the National Institute of Health. The standard methods of testing set up by your own and similar organizations have been of great value to the Navy, and many of these tests have been incorporated into specifications.

Close liaison is mantained between the fleet and shore stations and the research groups to determine any shortcomings which may develop in wear under combat conditions. Into the Navy building at Washington come men from all theaters of operations—destroyer commanders fresh from Mediterranean duty—cruiser commanders from the South Pacific—Seabee officers from the Solomons and Aleutians and other distant bases. Among their first stops are visits to the Permanent Naval Uniform Board and the Clothing Division of the Bureau of Supplies and Accounts. They are interviewed by experts in all fields of clothing. Careful notes are taken. These in turn are relayed to the manufacturers who invariably are enlisted to help solve the unforeseen problems which have arisen in the various theaters of action.

Another excellent source of information on clothing is the renovating plants operated by the Bureau at widely scattered points. What is repaired? What wears out first? What is particularly susceptible to deterioration by salt water action, by sun, by humidity, by rain, by cold? Such questions are answered in the reports which flow regularly into the Bureau, and those answers are a major guide in research.

Reports from the field enabled us to develop a face mask, for instance, which seems to have overcome every shortcoming of the former type of face mask. In a report from the tropics we were informed that shoelaces mildewed quickly and had to be replaced. A plastic lace has been developed which appears to be the answer to that problem. Another example of problems which practical use reveals was in shoes. The Navy always has specified the most durable kind of shoes, but these went to pieces quickly on sharp coral beaches and lava rock. Now we have found the type of footwear that can give maximum wear under this type of abuse.

So it goes. By placing knitted cuffs inside the parka sleeve deterioration was minimized. By eliminating exposed waist bands and knitted collars durability was

greatly increased. By redesigning parkas so slide fasteners were covered, much trouble from corrosion of those zippers has been avoided. There are innumerable other instances where research has solved clothing problems. A great share of the credit goes to industry which has cooperated tirelessly with the Navy to find the answers.

We want you to know that the Navy fully appreciates the countless instances of independent experiment. Submission of wide variety of samples is one of the ways in which industry has shown its cooperation in making our Navy the best clothed force in the world. And that cooperation is paying incalculable dividends in protecting and in many instances actually saving the lives of our boys out on the fighting fronts.

The Navy often is asked whether there still is research and development work to be done. Should the efforts of this Association and other similar groups which have been so helpful in the past be continued? We can answer this by stating definitely that while we have come a long way in improving our textiles and clothing, we still have a long way to go. Your association is rendering an invaluable service in this war which, rather than diminishing, will increase.

The extreme conditions under which Navy clothing is worn show up faults which might be unimportant in peacetime or in civilian wear, but are of paramount importance in war. There are extreme conditions of wear encountered by our sailors for which no adequate clothing has yet been designed. Therefore, the opportunities for associations of this character to learn from actual experience and to bend every effort in the development of new fibers, fabrics and finishes, and to tie in laboratory tests and results to simulate actual wearing conditions, is greater today than ever before.

The vital conservation program plays a large part in contributing to the need for research. It has been necessary to find and continually improve substitutes for rubber used in rainwear and footwear, for scarce metals such as brass, used as clothing hardware, to find methods of conserving vat dyes, and to determine satisfactory tearing strengths in various counts of cloth in order to speed up production of weaving mills throughout the nation.

The need for continued development is prevalent in order to expedite production and to assure us of sufficient fabric for clothing to adequately cover the requirements of our armed forces and civilians who are at work in vital war industries on the home front. Research and development will never end, even after victory.

One of our Navy heroes—the first naval flier to land on Henderson field in Guadalcanal—the holder of two Navy Flying Crosses for gallantry in action—was telling a group of our officers in Washington of his personal experiences in combat the other day. He said: "You know, we can get used to the mud and the heat, the loss of sleep, the water-soaked foxholes, the lack of time to eat, the great weariness. We can get used to the whine of bullets and the thud of bombs which may have our number on them. We can even get used to the sad things—when our buddies go out and don't come back. It is surprising what you can get used to out there. There's only one thing we can't get used to—those are the things we don't have—the needed part to put another plane in the air—things like that . . . the things we know the folks at home want us to have but someone, somewhere along the line, failed to get them to us in time. We can never get used to that!"

It is our job—yours and mine—every person who contributes in any way to supplying our fighting men to see to it that they get what they need, where they need it, when they need it. Nothing is of greater importance than that. In this war of supplies, that is the way we, by our individual efforts here and now, can hasten the day when our sons, our brothers, all our fellow Americans who are sacrificing for us in battle, can return home victorious.

ONE HUNDRED AND FORTY-FOURTH COUNCIL MEETING

THE Council held its one hundred and forty-fourth meeting at the Chemists' Club in New York City on Friday morning, January 21, 1944. Present were President William D. Appel, presiding; Hugh Christison and Charles A. Seibert, Vice-Presidents; William R. Moorhouse, Treasurer; Louis A. Olney, Chairman of the Research Committee; William H. Cady, Carl Z. Draves, Robert E. Rose, Thomas R. Smith and P. J. Wood, Past Presidents; John N. Dalton, Harry M. Hartnett and Charles H. A. Schmitt representing Northern New England; Allison R. Fletcher and Ben Verity representing Rhode Island; Kenneth H. Barnard, J. Robert Bonnar, J. Ernest Meili and George A. Moran representing New York; James P. Conaway and John F. McCoy representing Philadelphia; Samuel L. Hayes and Roy H. Souther representing Piedmont; Leonard S. Little, Chairman of the Executive Committee on Research; Bertil A. Ryberg, Associate Research Director; and Harold C. Chapin, Secretary. The Secretary's report of the 143rd Council meeting and financial report of January 14, and the Treasurer's report of January 18, were accepted.

A report* was received from a committee consisting of L. S. Little, Chairman, W. D. Appel, J. R. Bonnar, T. R. Smith and P. J. Wood, appointed by the Chairman of the Research Committee, himself a member ex-officio, to make recommendations on research program and management. This committee recommended that the primary object of our research continue to be the maintenance of the position of the Association as the authority on textile test methods in its field; but not to the exclusion of other research. They recommended that the present laboratory staff at the Lowell Textile Institute be augmented, and that in addition a full

*See text of report on page P82.

SECRETARY'S FINANCIAL REPORT—JANUARY 14, 1944

Received and transmitted to Treasurer	*Applications*	*Dues, regular and reinstate*	*Dues, Corporate and Sustaining*	*Miscellaneous*	*Totals*
Aug. 1 to Oct. 15, 1943	$270.00	$670.00	$660.00	$322.15	$1,922.15
Oct. 15, 1943 to Jan. 14, 1944	612.50	10,452.25	9,510.00	1,750.87*	22,325.62
Total in fiscal year to date	$882.50	$11,122.25	$10,170.00	$2,073.02	$24,247.77
Leaving desposited by Treasurer with Secretary					2,000.00

*MISCELLANEOUS ITEMS

Olney Medal Fund	$1,000.00	Crock cloth	107.12
Contribution from Piedmont Section	121.55	Water test apparatus	151.25
Launderometer royalties	105.00	Dyed standards	64.75
Year books	125.10	Gas fading blue prints	1.00
Reporters	19.85	Moth cloth	28.75
Reprints	1.50	Knitted tubing	6.25
Publicity pamphlet	.25	Rebate on apparatus	5.00
Buttons	13.50		$1,750.87

time Director of Research be appointed when available. They recommended that the responsibility for instituting and maintaining this enlarged program be vested in an Executive Committee on Research, consisting of the President of the Association, the latest Past President, the Chairman of the Research Committee, and three other members, of three year term, appointed by the Council. The Executive Committee would appoint members of the Research Committee; and its sub-committees also, with chairmen limited to three consecutive years of office. The detailed report of the committee was approved, and the same committee was elected the initial Executive Committee on Research. For the first year of operation a budget of $15,000 was voted; to be increased to $35,000 per year as soon as warranted by personnel and funds available. W. H. Cady, W. R. Moorhouse and P. J. Wood were appointed a committee to recommend approximate changes in the By-laws.

It was voted that if feasible a Convention, in connection with a General Meeting, be held at some time between September 1 and December 16, 1944; and the President was authorized to appoint a committee with power to make arrangements. Kenneth H. Barnard was appointed Chairman for this year's Intersectional Contest. It was voted that papers be judged, except for presentation, before the meeting; and that each be limited to ten minutes for presentation, in abstract.

The Treasurer was authorized to invest the Olney Medal Fund. It was voted that the next Council meeting be in New York City on Friday morning, April 21, with Research Committee meeting the next day.

Elected to Corporate membership were Alco Oil and Chemical Corporation, Althouse Chemical Co., Amalgamated Chemical Corporation, American Fnishing Co., H. W. Butterworth and Sons Co., Calgon, Inc., Chelten Dye Works, Cleaver Brooks Co., Dyersburg Cotton Products, Inc., Eagle Dyeing and Finishing Co., Globe Dye Works Co., Hart and Foster Co., Hellwig Silk Dyeing Co., Kali Manufacturing Co., Keystone Dyeing Co., Alex. Kerr Bro. & Co., Magnet Mills, Inc., Masland Duraleather Co., Mathieson Alkali Works, Inc., May, McEwen, Kaiser Co., Nicetown Dye Works, Owens Corning Fiberglas Corporation, Pee Dee Manufacturing Co., Pioneer Salt Co., Quaker Chemical Products Corporation, F. H. Ross and Co., Rosemary Manufacturing Co., S. and M Dye Works, Southern Franklin Process Co., Springfield Woolen Mills Co., Tennessee Eastman Corporation, Universal Dye Works, Victor Dye Works, Inc., Virginia Maid Hosiery Mills, Wayne Knitting Mills, Worumbo Manufacturing Co.

Each of the following was elected to the class of membership specified, as of thirty days from publication of application, provided no objection be received meanwhile by the Secretary.

Senior

D. K. Alpern	O. F. Habel	G. L. Nelson
C. A. Alt	F. R. Haigh	P. L. Oertel
R. K. Andrew	M. D. Hale	H. Patrick
L. D. Barta, Jr.	W. R. Harris	R. A. Pizzarello
G. J. Beck	E. R. Healy	A. H. Razee
T. Bernaski	J. A. Heintzelman	F. O. Robitschek
P. Bonnet	H. Heymans	F. M. Rosenberger
R. Buchanan	R. H. Hundley, Jr.	J. J. Rossi
E. W. Camp	W. F. Jeffrey	S. G. Ruffenach
W. C. Carn	N. E. Johnson	W. A. Sargent
F. P. Centrelli	T. M. Kelley	W. T. Schilling
V. Chmielniski	R. M. Kennedy	T. E. Shine
A. E. Collins	L. F. Koberlein	R. O. Simmons
C. L. Cook	P. G. Kolupaev	S. C. Smith
J. K. Coyne	C. I. Lakey	A. W. Spencer
J. P. D'Amico	D. M. Lewis	J. G. Stass
W. G. Darrow	T. R. Lockwood	H. L. Steen
R. A. Darsey	F. A. Lucy	W. J. Sullivan
G. J. Dolan	J. G. Lukash	H. C. Sydney
T. G. Dulin	W. A. MacFarlane	C. I. Taber

T. W. Durand
J. K. Edens
J. L. Fawcett
S. O. Fiedler
I. B. Frost
W. J. Fullerton
W. J. Gale
E. S. Garverich
G. I. Geddes
J. A. Grundy
C. W. MacMullen
C. M. Marberg
D. F. Mason
G. B. Martin
A. F. Mauldin
J. B. McKelvey
A. Moore
W. G. Morgan
C. A. Nangle
N. R. Talarico
W. E. Thompson Jr.
C. M. Tuttle
L. J. Villa
J. W. White
W. C. Wilcoxson
J. C. Willson Jr.
G. E. Wilson
J. F. Yerick

Junior

J. A. Adams
M. J. Babey
R. I. Bragdon
F. Broadhead
P. D. Caine
R. B. Finch
M. Kenigsberg
J. Kusko
J. A. Kling
D. M. Lindsley
W. Mannheimer
A. Merkel
F. E. Mosher
G. R. Nietzel
C. M. Patton
S. Pinsky
W. A. Puig
W. D. Scott Jr.

Associate

A. H. Austin
G. Bosschieter
J. C. Bradley
W. T. Bunce
E. R. Geib
A. A. Guidotti
C. Y. Hall Jr.
M. A. Hutchins
F. Kogos
E. T. Pickard
A. H. Sanford
E. C. Swackhammer
L. F. Wagner
J. J. Whitfield
E. L. Wile

Student

J. M. Culp

Transferred from other classifications to Senior membership

W. Z. Leaphart
Robert B. Lueg

Respectfully submitted,

HAROLD C. CHAPIN, *Secretary.*

REORGANIZATION OF RESEARCH

THE most important action taken by the Council during its meeting on January 21st was the acceptance of the report rendered by a special committee head by Leonard S. Little on the reorganization of the association's research operations. Other members of the committee are J. R. Bonnar, Secretary; William D. Appel, new president of the Association, and Thomas R. Smith, the outgoing president; also P. J. Wood and Dr. L. A. Olney, both ex-presidents and the latter the Research Director since its foundation.

For twenty-two years the A.A.T.C.C. has carried out an ambitious program of research aimed at the establishment in this country of textile quality standards and testing methods. Prior to that there were no recognized national standards, the field was chaotic and the best to be had were foreign standards or sporadic specifications covering private house brands. Dr. Olney organized a general Research Committee which today comprises fifty-five members, representing a true cross section of the dyeing, printing and wet finishing interests of the Textile Industry. This executive group was sub-divided into, and augmented by, thirty-seven sub-committees each of which was charged with a specific problem in the field of textile quality standards—such as fastness to light, and washing of colors on all commercial fibers, shrinkage, water repellency, etc., etc.

These committee members volunteered their services and made available to the A.A.T.C.C. the facilities of fifty or more of the finest textile laboratories which the industry affords. A typical year's operations included sixty-one meetings of the thirty-seven sub-committees, with an overall attendance of almost five hundred technicians; the distance traveled by these men in attending these meetings may be estimated at almost 28,000 miles. The significant fact concerning this organization is that all this activity, professional services, laboratory facilities, time and traveling expenses were contributed without any cost to the Association and in turn to the whole textile industry. The only paid supervision was the time of the Associate Director of Research, Bertil Ryberg, and the Executive Secretary, Dr. Harold C. Chapin, both resident at the Lowell Textile Institute.

The fruits of the labors of this Research Committee have been all the standards on color quality which govern textiles in this country today, as well as many other standards pertaining to special functions and finishes of textile materials.

Mr. Little's special committee was charged with the assignment of modernizing the Association's research structure with the intent of intensifying its work, of relieving Dr. Olney, who will soon retire from the chair of Textile Chemistry at the Lowell Textile Institute, from adminstrative duties, and of supplementing and assisting the volunteer committees with a staff of paid laboratory technicians. To this end it proposed that a permanent Executive Committee on Research be appointed to establish the general research policy of the Association, and to organize and operate all the professional facilities which are to be set up. In its opinion the main objective of the A.A.T.C.C. is to carry out in a practical way research work of vital importance to the Textile Industry and only by so doing can it maintain its rightful position as an authority in this field. A competent Director of Research will be engaged to assume the duties of Dr. Olney when he is ready to relinquish them. Assisting him will be the present Associate Director, Bertil Ryberg, and as new appointees an Assistant Research Associate, two laboratory assistants and a clerk or research secretary. To finance the entire program a budget of $35,000 per annum was approved.

The importance to the textile industry of nationally recognized quality standards for colored fabrics cannot be over estimated. The A.A.T.C.C. is the one organization in this country which is dedicated to this endeavor. It functions without profit, favoritism or political aspirations as a scientific fact-finding body, and its recommendations are freely available to all concerned. It is supported entirely by the dues of about 3000 individual members and a growing list of Corporate Members.

(*The Committee's report follows.*)

Report of Executive Committee on RESEARCH*

At the last Council meeting considerable discussion arose concerning the contemplated drive for corporate memberships. This discussion led to expression of opinion as to the future of the AATCC with respect to enlarging the research program. Particular emphasis was given to the concentration of the AATCC research on standard test methods for textiles. After many varied expressions of opinion from the floor, it appeared that the matter should be thoroughly reviewed at this time to preserve the present outstanding position of the AATCC in the textile field. It was voted that the Chairman of Research appoint a committee to report to the Council on research policy and program. Professor Olney reported back to the Council before the meeting adjourned, the appointment of the following members to serve on the committee:

Messrs. Leonard S. Little; P. J. Wood; William D. Appel; Thomas R. Smith; J. Robert Bonnar with Professor Olney as member ex-officio.

Professor Olney further stated that this committee would serve as the Executive Committee on Research.

This committee was charged to report to the next Council meeting with definite recommendations pertaining to the future of research by the AATCC. The committee, after having elected Mr. Little as Chairman, and Mr. Bonnar as Secretary, has held several meetings, and does now report as follows:

PERMANENT EXECUTIVE COMMITTEE ON RESEARCH

During the past twenty-odd years the activities of the Research Committee have increased so rapidly that it is fast getting to the point where it will soon be, and probably is already, beyond the power of one man to oversee satisfactorily. Coupled with this fact, the man who has until now very efficiently headed this work feels that he must gradually be relieved of these duties. It is, therefore, recommended that:

(1) Either this present committee or a new one be appointed to be a permanent Executive Committee on Research.

This committee should report to the Council and should consist of three duly appointed members and in addition the Chairman of the Research Committee, the President of the Association and the retiring President who is to be a member until the next outgoing president succeeds him. The appointed members of the original committee should serve for three years, after which one appointed member will drop out each succeeding year for three years, each being replaced by a member appointed for three years. The committee will recommend to the Council a new member to fill any vacancy. The Chairman of this committee is to serve as Chairman not over three years.

The Executive Committee on Research shall be responsible for the general research policy of the Association, for the organization and the operation of the employed research staff, including the Director of Research, when and if a full-time paid director is appointed. The committee should appoint the members of the Research Committee and the various sub-committees working under it.

RESEARCH OBJECTIVES

One of the main objectives of the AATCC is to carry out in a practical way research work of vital importance to the Textile Industry, and only by so doing can the AATCC take its rightful position and become the authority we desire it to be.

It is felt that the immediate emphasis of our research work should be on the establishment of standard test methods for textiles, which should have a two-fold use; namely, practicability to our own members as far as their own work is concerned and adoption by industry and the public where finished textile fabric test methods are involved. The latter will be achieved only through proper publicity. If we reach this goal of being the authority for standard test methods for textiles, we feel that other associations will turn their research efforts in other directions, rather than investigate such problems which naturally fall within the scope of our pronounced research endeavor.

PRELIMINARY RESEARCH ORGANIZATION

The committee feels that there should *immediately* be obtained to supplement Mr. Ryberg, the present Research Associate who should oversee the technical laboratory work carried out by the association, certain additional personnel. It, therefore, is recommended that:

(2) There be engaged an Assistant Research Associate at approximately $2,500 per year.

(3) There be engaged two laboratory assistants each at approximately $1500 per year.

(4) There be engaged a clerk or research secretary at $1,800 per year.

Adding to this an arbitrary amount of $1,200 per year for traveling and incidental expenses, plus $1,000 for equipment, we arrive at the expenditure of approximately

* Submitted to Council, January 21, 1944.

$13,500 per year immediately, this figure including Mr. Ryberg's salary, but excluding the Director of Research who is to be obtained at a later date.

PERMANENT RESEARCH ORGANIZATION

This committee feels that it is a dire necessity that the AATCC have in its future program a Director of Research on a paid basis, at such a salary that we can command full-time services of a satisfactory man; that is, satisfactory from the viewpoint of his technical background and general acceptance both within and without our own organization. This man should devote his entire time to the research activities of the Association and be responsible to the Executive Committee on Research. When authorized, he should attend meetings as the AATCC Technical Representative; and should assist the sectional Corporate Membership Committees in explaining to prospects the Research Program of the Association. This recommendation is made as to future policy, bearing in mind that at the present time the correct man is without question not available, and the appointment should be postponed until a later date.

It is thought by the committee that the immediate engaging of the personnel mentioned will go a long way toward starting our general research on a larger scale and a setting up of standard test methods on a higher basis or at least on a quicker basis, if not a more efficient basis. With this in mind, we cannot emphasize too strongly that it is imperative that this personnel be engaged at once.

The committee, looking ahead, realizes that the recommendation for the temporary research organization is a temporary expedient, and for reasons stated previously, recommends it that way, but proposes that a Director of Research as soon as the time is opportune, be engaged and recompensed commensurate with this position, the amount to be $7,500 minimum, as part of The Permanent Plan.

Furthermore, if conditions warrant, three or four more laboratory assistants shall be obtained, totalling approximately $7,000 per year. In summation of the above personnel requirements for a permanent research organization this committee recommends that:

> A research committee budget of approximately $35,000 per year for the next five years be adopted. This budget should, in the opinion of this committee, be revised at the end of three years. (5)

It is the unanimous opinion of the committee that by the proper approach to the industry through revised corporate memberships the suggested annual budget can be successfully raised.

RESEARCH SUB-COMMITTEES

A. Reports

This committee feels that too many times in the past sub-committees have made too few progress reports, and have waited until such time as their work was completed before publishing results. Many of the problems, due to their fundamental character cannot help being long and drawn out, and new problems grow out of the old ones. With frequent progress reports constructive suggestions should be developed in the general Research Committee meeting. It is, therefore, recommended that:

> Sub-Committees report as soon as possible (and with frequent progress reports) on the problem charged with and not branch into related but new problems evolving from the original without the approval of the Executive Committee on Research. (6)

Upon the acceptance of the report of the Sub-Committee on a single problem, either a new committee or the same committee should then be charged to investigate further successive problems.

B. Revision of Sub-Committee Structure

This committee has looked into and reviewed the various forty-odd sub-committees now in existence, paying attention to their past history, present work and future prospects. We feel that for two reasons these committees with the proper and necessary backing can considerably improve their operation. This is because; firstly, the work involved on each of these committees has grown to such an extent that members are not able to carry out the work in their own time or the time of their employers with sufficient speed; and secondly, because the time needed by any one man to follow through and see that sub-committees are functioning satisfactorily has not been available. This is natural because of the number of sub-committees needed due to the scope of the work covered by the AATCC Research Committee.

In consequence of this, it was recommended above that a Director of Research be appointed. It is now furthermore recommended, with respect to sub-committees, that:

> Sub-committees be divided into two categories; firstly, active sub-committees; and secondly, reference sub-committees. (7)

These titles are self-explanatory, the Reference Sub-Committees being merely kept in existence so that inquiries directed to them can be submitted to someone cognizant of the problem.

C. Revision of Sub-Committee Personnel

It has been found by this committee that too many sub-committees do not have official reports of their meetings, and it is felt that a secretary of each sub-committee is needed to draw up minutes of every meeting and both progress reports and final reports for the committee. Your committee recommends that:

(8) Each sub-committee recommend its own chairman and also elect a secretary.

(9) Copies of all of these reports be submitted to each member of the sub-committee and to the Director of Research by the Secretary of the sub-committee.

(10) No member be chairman of more than one active sub-committee at a time.

(11) No member be a member of more than three active-sub-committees at one time.

(12) No member be chairman of any active sub-committee more than three years in succession.

An ex-chairman can continue to be a member of a sub-committee and shall be eligible as chairman again after a span of one year.

ADVISORY COMMITTEE ON TEST STANDARDS

Your committee furthermore feels upon investigation that many of our standard tests have been set up with the feeling that they were perfectly satisfactory, and then after publication it has been found that outside interested organizations have legitimate reasons for asking that revision be made. It is therefore, recommended:

(13) Before even a tentative test method is adopted suitable arrangements be made to contact other recognized organizations interested in the test at hand for their criticisms, constructive or otherwise.

The AATCC has several times in the past found itself (without question through misunderstanding) involved in policies concerning specifications, and it is now suggested by this committee that the wording of our standard test methods be such that the word "Specification" not be used in order to avoid any further misunderstandings.

An alternate suggestion is made that we organize within our own association Advisory Committees on Test Standards as may be needed with official representatives from all important sections of the Textile Field, and should also include, representing our own organizations, our President, Director of Research, Chairman of Executive Committee on Research, and the chairman of one or several of the sub-committees involved. The purpose of the committee is to approve standard trade test methods satisfactory to the majority of the industry. It is the further purpose of the committee to help the entire industry to recognize and use exclusively as far as possible one individual approved standard test method for each specific test. The size and length of service of this committee is to be determined by the Executive Committee on Research.

It is felt that the question of labeling textile fabrics and the terminology to be used in the grading of fabric qualities, provided they are not considered chemically inaccurate or misleading, is not an AATCC function. It is also felt that actual gradation points in classifying relative qualities of fabrics such as whether a fabric is storm, rain or drizzle resistant is the function of the merchandising group in the industry and not a duty of the AATCC. Conversely it is the work of the AATCC to establish satisfactory standard test methods, whereby gradations can be readily established.

TECHNICAL LABORATORY LOCATION

After considerable thought by this committee, it is recommended that:

(14) The official headquarters for a technical laboratory be located for the present, and perhaps for some few years in the future, at Lowell Textile Institute, providing arrangements (which it is understood at the present time can be made) should be satisfactorily consummated.

FELLOWSHIPS AND/OR SCHOLARSHIPS

There seems to be some doubt on the part of large interested organizations as to the AATCC attitude concerning "Fellowships" and/or "Scholarships," and with the view of clarifying this, your committee recommends that:

(15) A public statement be made that Fellowships and/or Scholarships are acceptable to the AATCC. The price depends on quality of personnel needed and amount of equipment involved.

GENERAL ORGANIZATION

This committee although only charged with studying matters concerning the Research Committee, cannot help but take the opportunity of saying that a paid full-time secretary would not only be very helpful to the AATCC as a whole, but would be especially helpful to the Research Committee. It is unbelievable the huge amount of correspondence received and demanding an answer. This was brought to light by the investigation of this committee. This is particularly true with respect to work on the Year Book, Membership Lists, Corporate Membership Drives, Inquiries from concerns interested in technical information, etc.

Serving on this committee has been a pleasure for each member, and it should not go without mention that this report of the Executive Committee on Research is submitted with unanimous approval of every member of the committee.

EXECUTIVE COMMITTEE ON RESEARCH,

LEONARD S. LITTLE, Chairman
J. ROBERT BONNAR, Secretary
P. J. WOOD
WILLIAM D. APPEL
THOMAS R. SMITH
PROFESSOR L. A. OLNEY

January 21, 1944.

OBITUARY

WALTER L. JAMES

WALTER L. JAMES, salesman for Geigy Company, Inc., died on January 11th at the Soldiers Home in Chelsea, Mass. His home was in Wollaston, Mass.

Mr. James was born in New York City on March 31st, 1892, and was brought up in Brooklyn where he attended public school. He was an outstanding football player in high school and served as the captain of a semi-professional team for six years following graduation.

Following high school he secured a civil service position with the City of New York as an accountant, attending night school to obtain a Certified Public Accountant degree. He enrolled in the U. S. Navy on May 22nd, 1918, and served as a coxswain at the naval training camp at Pelham Bay Park, N. Y. He was honorably discharged on September 30th, 1921.

He then took a position in Boston and in 1922 accepted a position as salesman with the Geigy Co. in that city. He remained there until his death.

He belonged to many organizations including the Wollaston Post of the American Legion, the Norwood Lodge of the Elks, the Northern New England Section of the A.A.T.C.C., was a past commander of the Masons, belonged to the Dry Salters Club of New England, the Engineers' Club of Boston and, until a few years ago, the Wollaston Golf Club.

He became ill about two years ago and last March he went to Florida for his health. However, he was slowly failing and when he had a bad shock in July, 1943, he entered the Soldiers Home at Chelsea.

He is survived by a son and a daughter.

• SAFETY IN USING BLEACHING COMPOUND

Bleaching solutions in common use are sodium hypochlorite, hydrogen peroxide, and sodium peroxide.

1. Wear the personal protective equipment provided and the clothing recommended for your job. Wear it all the time you are handling bleaching solutions. If chlorine gas is used in making the hypochlorite, respiratory protective equipment is necessary.

2. If the bleaching solution is splashed on your skin, get to a shower, drinking fountain or other abundant supply of clean running water quickly, and flush both your skin and clothing again and again where the solution splashed. Do not wait until the chemical begins to burn—go at once.

3. If the solution splashes in your eye, hold your eye open in the water stream and let the water wash inside of it again and again. Continue this washing process until the chemical has been completely washed out.

4. Get first aid for every burn without delay.

5. In all cases of eye injury, go to a doctor for thorough examination and treatment.

—*Safety Instruction Card No. 517, National Safety Council.*

• SURVEY ON HOSIERY COLORS

In a survey on hosiery colors, conducted by *Knit Goods Weekly*, it was found that, based on their wartime experience with a small number of colors in each stocking style, the majority of retail hosiery buyers believe that no more than four shades will be necessary for post-war operation. The survey covered large and small stores in large and small cities in thirty-one states from coast to coast.

To the question: "For post-war operation, how many shades in each stocking style do you think will be necessary?" the answers in per cent of the total number of replies received, were as follows:

	Per Cent
Two shades	6.3
Three shades	28.3
Four shades	38.6
Five shades	14.2
Six shades	12.6

No hosiery buyer wrote in more than six as the number of colors needed after the war. Combining the sentiment for both three and four shades, which ranked highest in the results, it is found that 66.9 per cent of the total number of buyers replying desired a three-four range. Adding to this the per cent desiring two shades, 73.2 per cent of the buyers state that they wish up to and including only four shades.

To the question: "Do you find the current number of stocking shades from each mill adequate?" The answers, in per cent of total replies, were:

	Per Cent
Yes	80.5
No	19.5

The greatest variance in the survey replies was found in the answers to the question: "Roughly, what percentage of your customers still complain of insufficient color choice?" These answers, in per cent of total replies, were as follows:

	Per Cent
None complaining	11.0
1 to 9 per cent	44.1
10 per cent	16.0
11 to 24 per cent	9.2
25 to 49 per cent	9.5
50 to 75 per cent	10.2

To the question: "Does a small number of colors hurt dollar volume?" The answers, in per cent of total replies, were:

	Per Cent
No	64.6
Slightly	33.8
Fairly Heavily	0.8
Substantially	0.8

To the question: "Does a small number of colors shorten sales time with the average customer?" The replies, in per cent of total buyers reporting, were as follows:

	Per Cent
Sales time cut	90.6
Time lengthened	9.4

To the question: "Are color exchanges by customers reduced by fewer shades?" The replies were as follows:

	Per Cent
Reduced	98.4
Increased	1.6

• PLASTIC FILMS

New methods for controlling characteristics of plastic films used by the Army in protective coverings for equipment, subsistence and other supplies going out to armed forces in all parts of the world are being developed under a research program now under way by the National Research Council's Committee on Quartermaster Problems, the War Department announces.

Although the program has been under way only a little more than a month, Quartermaster Corps technicians who are cooperating in the studies report that experiments with specific additives, that is, materials not ordinarily classed as plastics, impart to films qualities of moisture vapor resistance or other desirable characteristics, whereas the addition of other materials will eliminate certain undesirable characteristics.

The program seeks to develop methods whereby these characteristics may be controlled so that definite types of film for definite purposes may be planned upon, designed and manufactured. Another phase of the program will include research to see what new raw materials may be used in producing plastic films.

Fundamental research is being conducted at Brooklyn Polytechnic Institute, under the direction of Dr. Herman Mark of that institution, and test phases are being handled by the Washington Quartermaster Depot, Chemical Warfare Service Development Laboratory, National Bureau of Standards and R. H. Macy & Co., Bureau of Standards.

An advisory panel made up of technicians from companies in the plastics and allied industries engaged in manufacture of synthetic resins and films is cooperating in the study.

Already numerous uses for plastic films have been developed by the Quartermaster

Corps, applications in which they serve not only as substitutes for other, and more critical materials, but in which they serve the purpose desired even more effectively than the material previously used.

Most of these uses are in the field of packaging and protective coverings. Outstanding among the latter group is the use of a vinyl plastic film envelope as a protective cover for the small arms of troops engaged in landing operations. Pliant, semi-transparent bags of this tough material not only shield rifles, carbines, pistols and machine guns from water, but sometimes aid the soldier himself in keeping afloat.

• TO SURVEY EMPLOYEES

A questionnaire to determine postwar job preferences of employees in the armed services will soon be released by L. Sonneborn Sons, Inc., oil refiners and manufacturing chemists, according to an announcement sent to the firm's 150 service men and women.

The questionnaire will seek information on specialized military training which may equip employees for work of a different nature than that performed for the company before entering service. The individual's specific preferences for future work and his own opinion of the type of job he now feels he can do best for the company and for himself will also be given full consideration.

"Our company," said Rudolf G. Sonneborn, secretary-treasurer, in making the announcement, "is carrying its full share of wartime responsibilities with all plants working at all-time peak capacities. Our products are going into thousands of war uses—millions of gallons of aviation oils, camouflage paints, flavoring extracts for field kitchens, rust preventatives, building products for camps, canvas waterproofing, ointments for use by the medical corps—the whole range of our diversified business is mobilized. When finally we reach the peace and convert our thinking and efforts to postwar developments, we shall expect big opportunities for you, maybe in your old work if that be available, maybe in some new department and in some new activity for which your war experiences have qualified you. You are definitely a part of our postwar plans."

• BOOKLET ON STARCH PRODUCTS

"At every invasion landing and Commando raid . . . in every foxhole, field hospital and enemy prison camp . . . you will find industrial adhesives and starch products performing many important tasks. You can trace them through the processes and packaging operations of war industries to the convoys which carry food, clothing, ammunition, medical supplies and battle equipment to our fighting forces and Allies throughout the World."

The above is extracted from the introduction to the new booklet entitled "National Adhesives & Starch Products in Global Warfare" published by National Starch Products, Inc., of 270 Madison Avenue, New York 16, N. Y. This booklet reproduces in color a series of twenty posters which were prepared as a part of their industrial relations program, for display at their domestic plants in Dunellen, N. J., Chicago, Ill., Indianapolis, Ind., and San Francisco, Calif., as well as at their factories in Canada, and England.

Copies of the booklet are available to those who request them on their letterheads.

• SUPPLEMENT TO ARMY COLOR CARD

At the special request of the Quartermaster General of the United States Army, The Textile Color Card Association has issued a Supplement to the United States Army Color Card showing the Official Colors for Arms and Services, originally brought out by the Association in 1930.

This Supplement, it was explained by Margaret Hayden Rorke, managing director of the Association, portrays samples of the three new colors officially adopted for Arms and Services by the Quartermaster General during the present world war. These are U. S. Army Brick Red, authorized for the Transportation Corps, together with U. S. Army Golden Yellow in the original card, and U. S. Army Old Gold and U. S. Army Mosstone, adopted for the Women's Army Corps. All are the Association's colors. The two additional Services for which colors are specified in the Supplement are the Armored Forces and the Tank Destroyer Forces.

The above-mentioned new shades, together with the nineteen shown in the original card, comprise the official colors used for various purposes of identification on uniforms and equipment, as shoulder sleeve insignia and corded braids on garrison bags, to indicate the different branches of service of the United States Army. In addition to the four new listings in the Supplement, the twenty-five Arms and Services of the Army for which colors are designated in the original card are Adjutant General's Dept., Air Corps, Cavalry, Chaplains, Chemical Warfare Service, Coast Artillery Corps, Corps of Engineers, Detached Enlisted Men's List, Field Artillery, Finance Department, General Staff Corps, Inactive Reserve Corps, Infantry, Inspector General's Dept., Judge Advocate General's Dept., Medical Dept., Military Intelligence Division Reserve Corps, Military Police, National Guard Bureau, Ordnance Dept., Permanent Professors of the United States Military Academy, Quartermaster Corps, Signal Corps, Specialists' Reserve Corps, Warrant Officers.

The Quartermaster General's Office, Mrs. Rorke stated, has distributed a large quantity of the United States Army Color Card for the Official Colors for Arms and Services, as well as the Supplement, to its various depots throughout the country. Firms making Army clothing and equipment also make wide use of this card, which may be secured from The Textile Color Card Association of the United States, Inc., 200 Madison Avenue, New York 16, N. Y.

• EVENING TEXTILE COURSES

H. R. Mauersberger, head of the Evening Textile Courses, Columbia University, has announced a new schedule of textile courses to be given during the Spring term 1944. Registration for these courses began on January 31st in Room 301, School of Business, Columbia University, 116th Street and Broadway. Lectures began on Monday, February 7th, 1944. There is a course in converting of rayon and spun rayon fabrics; a course in woolen and worsted weaving and finishing; a course in identification analysis and testing of textiles; and a course in textile chemistry consisting of both laboratory practice and lectures. These courses consist of 15 lectures, one a week and end in May. They are especially designed for salesmen, executives, junior executives and advertising executives. They have been offered continuously for over 25 years.

• ELECTED PRESIDENT

Thomas Coyle, chlorine products manager of the Electrochemicals Department of E. I. duPont de Nemours & Company, was elected president of the Compressed Gas Manufacturers Association, Inc., January 24, at New York.

Mr. Coyle joined the duPont Company in 1930 when the company acquired Roessler and Hasslacher Chemical Company with which he had been associated 26 years.

Born at Perth Amboy, N. J., he attended Bethlehem Preparatory School and then was graduated from Lehigh University as a chemical engineer. He had been employed by Roessler and Hasslacher before attending the university and at the conclusion of his course returned to the firm in 1909.

He has been manager of chlorine products since R. & H. interests were purchased by the duPont Company. His home is in Wilmington.

• HANDLING BARRELS AND DRUMS

The Never-Slip Safety Clamp Company is introducing new lifters designed to handle barrels and drums, horizontally and vertically.

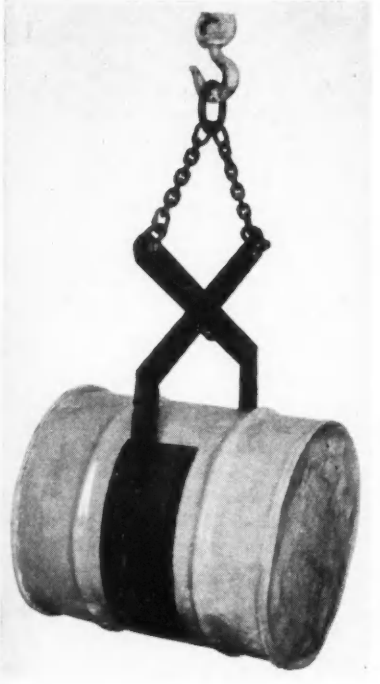
The vertical lifter No. B-1, is merely lowered onto the barrel and the encircling chain placed in a grab hook. One of the outstanding features of this new lifter is

Vertical Lifter

said to be the automatic opening. The lower cross bar upon contact with the top of the drum, opens the arms and makes application and removal a matter of seconds. Adjustment for various diameters of containers is automatic.

The horizontal lifter No. B-2, is said to

Horizontal Lifter



be effective and simple in operation. Ease of application and removal are claimed.

The standard capacities of these lifters is 1200 pounds, but special sizes are available upon submission of your specifications. Inquiries should be forwarded to the manufacturer, Never-Slip Safety Clamp Company, Mamaroneck, New York.

• pH AND CHLORINE CONTROL

A completely revised 83 page combination handbook and catalog (6th edition), of value to everyone interested in control of pH (acidity and alkalinity), chlorine, phosphates in boiler water, and in water analysis, is available from W. A. Taylor & Co., 7300 York Road, Balto. 4, Md. Fifty pages are devoted to (1) a simple, nontechnical explanation of the meaning of pH control and the methods for making colorimetric determinations; (2) precautions to be observed; (3) discussion of the application of pH and chlorine control to 31 different fields, such as water, sewage, boiler water, brewing, refrigerating brines, paper, laundry, sugar, textiles, etc.; (4) a technical discussion of the meaning of pH control. These four sections bring together, in condensed form, information which cannot be obtained elsewhere except by reference to innumerable textbooks and original articles. The remaining 33 pages contain descriptions of Taylor Slide Comparators for general pH and chlorine control, determination of phosphates in boiler water and for analysis of water for nitrites, nitrates, silica, iron, ammonia, etc. A copy will be sent free on request.

• HOOKER SALES APPOINTMENTS

Hooker Electrochemical Company announces the assignment of Thomas H. Trimble as its Sales Representative in the Eastern Middle Atlantic territory with headquarters at the New York office, Lincoln Building, 60 East 42nd St. Mr. Trimble has been associated with the Sales Department for eight years, chiefly in the Upper New York State and Western Pennsylvania territory.

Ralph E. Davis, Jr., has been appointed Sales Representative in the Upper New York State and Western Pennsylvania area. with headquarters at Niagara Falls, New York. He will, in addition, continue his special technical service work with the leather industry, including principal tanneries in the entire eastern area. Mr. Davis joined the Hooker Company in 1941, having been associated with the leather industry for eight years prior to that time.

• MUNSELL COLOR FOUNDATION

A recent event is the establishment of the Munsell Color Foundation, Inc. The Munsell Color Company for twenty-two years has carried on the task passed on by Albert H. Munsell at the close of his lifetime of color research and teaching. His family, as owners of the company, have seen the theories and practical suggestions originated by Mr. Munsell carried into many fields, and have been pleased to know that his system of color notation is recognized by an increasing number of artists, scientists, industrialists, educators, and the general public.

Believing that the time had arrived when the ownership of the company and the responsibility for carrying on this work should be placed in the hands of the persons having the broadest knowledge of color and its problems, and being most interested in the advancement of color knowledge, the owners have taken part in the creation of a foundation whose corporate name is "The Munsell Color Foundation, Inc.," and have transferred to the Foundation their stock in the Munsell Color Company, Inc.

The purpose of the Foundation is to:

"Further the scientific advancement of color knowledge, and in particular, knowledge relating to the standardization, nomenclature, and specification of color; and to promote the practical application of these results to the color problems arising in science, art and industry."

The Foundation is a non-profit organization whose management is entrusted to a Board of Trustees selected as follows:

"One . . . shall be a member of the staff of the National Bureau of Standards who shall have been designated by the Director of said Bureau; one . . . shall be designated by the Executive Committee of the Inter-Society Color Council; one . . . shall be the person who, from time to time, shall be the manager of the Munsell Color Company, Inc.; one . . . shall be the representative of Juliet E. Orr Munsell and her son, Alexander E. Orr Munsell; there shall be three Trustees at Large."

The first Board of Trustees consists of Deane B. Judd, trustee appointed by the Director of the National Bureau of Standards, elected president; Loyd A. Jones, trustee at large nominated by the Optical Society of America, elected vice-president; Blanche R. Bellamy, manager of the Munsell Color Company, Inc., elected secretary; Dorothy Nickerson, trustee appointed by the Inter-Society Color Council; Alexander E. O. Munsell, trustee representing the Donor, and Arthur S. Allen and I. H. Godlove, trustees at large. Each member of this board is already well known in color science or in industry.

The Munsell Color Company, under the guidance of the Foundation, will continue the services it has heretofore rendered, and, when possible and its work is needed, will extend its activities into new fields.

● EMERY HANDBOOK

A highly informative new handbook on fatty acids and their derivatives has just been published by Emery Industries, Inc., Cincinnati, Ohio.

The new "Emeryfacts" brings together, in a handy working arrangement, data on the derivation and chemical nature of fatty acids, their compounds, and several tables illustrating many of their commercial applications. In addition, this handbook tabulates the specifications and characteristics of Emery's fatty acid products.

The introduction states the threefold purpose of the book as follows: "1. To describe the basic chemistry surrounding the products we make and sell . . . 2. To be a brief reference guide to practising chemists who use, or may use fatty acid products and their derivatives . . . 3. To outline specifications, shipping data and commercial descriptions of our principal products in the fatty acid field." The information contained is specific and organized to be useful.

An interesting feature is the section on new aliphatic dibasic and low-molecular-weight fatty acids.

"Emeryfacts" is made up in loose-leaf form, and additional sections covering new and useful ideas will be available, before long, and will be issued from time to time as supplements.

This booklet is available upon request. Address Emery Industries, Inc., 4306 Carew Tower, Cincinnati 2, Ohio. Give name of your company and your position.

● INTER-SOCIETY COUNCIL

As a result of the greatly increased interest in textile research and of the growing number of organizations participating in it, the need for coordination and avoidance of unnecessary duplication has been recognized. To meet that need, an informal conference of representatives of the major organizations was held recently, at which plans were laid for the formation of an Inter-Society Council for Textile Research. A steering committee was appointed, composed of Giles E. Hopkins, of the Textile Research Institute, Inc., Chairman; William D. Appel, of the National Bureau of Standards; A. G. Ashcroft, of Alexander Smith & Sons Carpet Co., and John T. Wigington of The Cotton-Textile Institute, Inc.

The purpose of the Council is to provide a clearing house for all types of research on textiles; to steer new textile research problems to the agencies best equipped to handle them, and to cooperate with other research organizations and societies.

The plans, as tentatively outlined by the Steering Committe, provide that the Council will be an informal group representative of all the organizations, meeting infrequently —possibly once a year. The interim functions, to accomplish the purposes outlined above, would be performed by an Executive Committee to be appointed at a later meeting of the group.

Organizations represented at the original meeting included the American Association of Textile Chemists and Colorists; The American Association of Textile Technologists; Committee D-13 of the American Society for Testing Materials; the Cotton-Textile Institute; the Industrial Fiber Society; the Institute of Textile Technology; the National Bureau of Standards; the National Cotton Council of America; The Textile Foundation; the Textile Research Institute, Inc., and the Southern Regional Laboratory and the War Food Administration, both of the U. S. Department of Agriculture. Other organizations interested in and promoting textile research, both technical and economic, will be invited to participate.

One of the functions of the Council suggested by the meeting is the maintenance of a continually revised and up-to-date list, or directory, of textile research organizations, and of the various projects being conducted by them, or in prospect. This list and its revisions would be circulated currently among all the various organizations participating.

The group meeting at which all the plans for the Council were laid was characterized by complete frankness of discussion, and a unanimous disposition on the part of those present to do everything feasible, and within the limits of the policies of the individual organizations, to work together toward the common goal, the advancement of textile research.

● JOINS TEXTRON

Stafford G. Cowan, who has been well-known in the hosiery field for a number of years, has been appointed Regional Sales Manager of the Middle Atlantic States for Textron, Inc. Mr. Cowan has resigned from Dexdale Hosiery Mills with whom he has been associated for the past eight years. Previous to his connection with Dexdale, Mr. Cowan was a partner in Lee and Cowan, sales agents for several high-grade hosiery mills.

Textron plans a sales staff of five or more men in the Middle Atlantic States, and Mr. Cowan will direct their activities in the states of Pennsylvania, New Jersey, Delaware, Virginia, Maryland, West Virginia and the District of Columbia. Plants of Textron's affiliated plants currently are located in Providence, R. I.; Lowell, Mass.; Manchester and Suncook, N. H. At the moment manufacturing facilities are largely engaged in production of war textiles including human escape chutes, cargo chutes, mountain tents, glider tow ropes and jungle hammocks. Limited quantities of consumer goods are now being made. The scale will be increased vastly as soon as war conditions permit.

● TEXTILES IN THE ORIENT

A picture of the effect of the textile industries of the Far East upon the future of our own textile industry is drawn by Fessenden S. Blanchard, President of the Textile Research Institute, in his treatise enitled—"The Textile Industries of China and Japan—Post-War Opportunities and Problems for America."

The textile industry is at the core of the economic problems of the Orient—which will require solution at the peace conference. Japan will again become a serious competitor of the American textile industry; her textile industry being in normal times by far her largest and most successful industry, Japan must of necessity be permitted to manufacture and export textiles. On the other hand, the Chinese textile industry may offer a splendid post-war opportunity for American capital and management—in cooperation with Chinese.

The author has drawn upon his own first-hand experience in the Orient plus the close association with well informed sources versed in recent developments in those countries.

How the Japanese with their innate capacity for organization and unity of action have built, within a short span of years, a textile manufacturing industry of outstanding efficiency and one using every modern technological device is clearly explained; as well as other factors, in addition to low wage rates, that have enabled Japan to pile up surprising profits. As an example, before the war, Japan was able to buy raw cotton in India, pay all transportation costs, manufacture it into textile fabrics, pay a stiff duty back into India, and then undersell the Indian manufacturers, despite higher wage rates in Japan.

The Chinese textile industry is reviewed, together with reasons for its relative lack of success and the possibilities for the later removal of the obstacles to its future prosperity. It is pointed out that some of these obstacles may be overcome by a strong, central government, able and determined to put its economic house in order. Other difficulties, however, are dependent upon foreign cooperation, particularly American, through financial and management aid, encouraged by a willingness by the Chinese —now that extraterritoriality has been abolished—to provide favorable laws and protection to American participants in China's textile development. It is also vital to China's general industrial development that America should be willing to accept Chinese goods in exchange. China is in the first stages of industrialization. A prosperous and industrialized China might well turn out to be the greatest

future market for American products, capital and men. It may prove our great opportunity for the continued expansion of American capitalistic enterprise.

An appendix is included in which is assembled important statistical information, together with a comprehensive list of bibliographical references.

The price of the 70 page book is $1.00, postage paid to any point in the United States and Canada. Address Textile Research Institute, Inc., 10 East 40th St., New York 16, N. Y.

• JOINS GENERAL DYESTUFF

Donald M. Martin has joined the General Dyestuff Corporation with headquarters in New York. He will be in charge of sales of Auxiliaries. The Auxiliary Department has formulated plans covering the development of textile finishes to meet the post-war requirements.

Donald M. Martin

Mr. Martin, who as former President of the Aqua Sec Corporation, has specialized in the development of many textile finishes during the past fifteen years, thereby brings a wealth of experience to the organization.

• U. S. TESTING BOOKLET

The United States Testing Company, Inc., with main laboratories in Hoboken, N. J., has just issued a booklet, "A New World," in an attempt to give to industry a brief, all-over answer to the question—"What can science do for us?"

The Testing Company will send a copy of "A New World" to anyone, upon request.

• NEW STAPLE FIBER

The American Viscose Corporation has announced the successful development into commercial application of a new very fine viscose rayon staple fiber of the "Avisco" or extra-strength type. This fiber, to all practical purposes as fine as silk, is of principal and immediate interest to the fine goods cotton system mills and the spun silk or schappe spinners.

The new fiber is described as 1.0 denier "Avisco" and is produced in appropriate standard lengths suitable for the different spinning systems on which it is used. Basically, it is said to permit the spinning of yarns of far finer sizes than heretofore possible with standard type rayon staple fibers. In addition, it is said to materially increase the strength of spun rayon yarns and fabrics as compared with the yarns and fabrics made with standard type viscose rayon staple fibers. Tests have also demonstrated that the new fiber provides superior creping qualities in fabrics made with high-twist spun rayon yarns.

Commercial applications already reported include flat knit fabrics, simplex glove fabrics, tricot knit dress goods, fine broadcloths, foundation fabrics and various types of sheer handkerchief, dress and skirting materials. These are available in constructions featuring yarns as fine as from 50/1 to 80/1 and 100/2 cotton counts.

The 1.0 denier "Avisco" fiber has been spun experimentally in 100 per cent content yarns as fine as 200/1 and 300/1, or approximately up to 150 miles per pound of yarn.

• RED CROSS WAR FUND

Under the direction of Charles A. Tattersall, Vice President of the Niagara Hudson Power Corp., 15 Broad Street, New York, seven leading industries, food, building, beverages, public utilities, chemicals, paper and tobacco will be mobilized to support the Red Cross 1944 War Fund, it is announced by Eugene W. Stetson, chairman of the Manhattan Commerce and Industry Committee for the campaign.

The nationwide Red Cross appeal for $200,000,000 will open on March 1. New York City has been assigned a quota of $22,386,000 of which approximately two-thirds must be raised by the Commerce and Industry Committee. In 1943 the C. & I. organization accounted for 73 per cent of New York City's $14,344,000 in contributions.

Mr. Tattersall's section of the Commerce and Industry Committee contains 83 divisions, each of which will be headed by its own chairman. Among the chemical division are included drugs, pharmaceuticals and dye stuffs.

• RESEARCH IN TEXTILES

Research is the one sure prediction in an otherwise unpredictable year in textiles, states Douglas G. Woolf, first vice-president of the Textile Research Institute, Inc., in the current issue of Textile Research, published by that organization. Its growth in 1944, and beyond, is absolutely assured, he adds. That is why a new interest in research is sweeping the industry. That is why hard-headed business men are putting cash on the barrel-head to finance research.

"It is almost impossible to grasp the complexities of the textile picture for 1944 and the years ahead. It appears to be a maze of conflicting trends and impulses," says Mr. Woolf. "But trends now emerging will affect both the immediate and long-range post-war period."

"It is impossible to over-emphasize the significance of those technical developments in textiles which were in the making prior to the war, and of those which have grown out of the research on military textiles. Probably the most important is in the direction of what has been called 'The Battle of the Fibers'. In the thoughts of many of us, the term 'battle' in this connection has become obsolete. It implies adherence to the status quo, an attempt to fight for supremacy of fibers previously used by individual branches of the industry and by individual companies.

"Possibly second in importance to technical development in raw materials is the emphasis which has been placed on research in the direction of new finishes. This was already well under way before the war; it has been greatly accelerated by war-time research to meet the needs for durability under unprecedented conditions in the Arctic and in the jungle, in the air and under the sea.

"The safest way is to maintain a completely open mind as to the trend of textile finishes after the war. Particularly is it desirable to avoid the feeling that the utilization of any particular type of finish can be postponed until there is a public demand for it. The way in which many of our newer and more prosperous industries have developed—often at the expense of older and less progressive industries—has been through the anticipation of public use value, and the creation of products best fitted to serve it. This technical progress has been supported by promotional activities which made the public aware of the availability of such new products.

"Probably the third major zone of post-war changes will be in the field of textile equipment, and auxiliary equipment sold by general industrial companies to textile mills. Major changes in existing textile equipment may well be delayed beyond the period of active utilization of new fibers and new finishes. There will be the immediate problem of reconversion of many textile machine shops from war-time to a peace-time basis. However, here too there can be no complacence about the future. It has often been pointed out that much of the standard textile equipment does not represent mechanical perfection, to indulge in understatement. Trends toward by-passing the spinning frames and the loom were already in existence in isolated cases before the war. It would be a fallacy to imagine that such attempts will be abandoned in the post-war period.

"Less predictable than the era of technological change, as to its trends, but cer-

tainly not less inevitable, is the era of economic change which faces the textile industry.

"In the long-range view there are these factors: our position in world textile trade, and the competition among specific industries themselves not only for the textile markets but for an increasing share of the consumer's dollar. In addition there will be the problems involved in new productive efficiency reached during the war, in multi-shift policies, in the replacement of man-power by labor saving devices, in the financial problems growing out of the large public debt, possible inflation, and the need for corporate reserves to meet modernization demands.

"In fact, it seems almost certain that the economic problem will be greater than the technical problem after the war. Emphasis during the last few years has been on technological improvement and on reaching new methods of production effort. Major emphasis after the war may have to be placed upon the intelligent utilization of these new facilities, benign in themselves but potentially malignant in their abuse. The whole problem of gearing our distribution machinery to take care of our expanded production will be on us again to a degree probably never before realized.

"It does no good to point to unlimited production and unlimited world demand unless the two can be synchronized. Synchronization lies through the utilization of both technical and economic research, and through the relation of one to the other, to meet currently the problems as they arise and to plan for the future.

● APPOINTED SALES MANAGER

George Senn, 2200 East Westmoreland Street, Philadelphia 34, Pa., announces reorganization of their sales force and the addition as general sales manager, of Harry Soltz, formerly an executive of the Soltz Paint Co. Mr. Soltz has a background of many years' experience in the sales of raw and finished materials.

● WITH U. S. NAVY

W. Carlton Bernard, president of the Bernard Color & Chemical Corp., is now with the U. S. Navy and is stationed at Sampson, New York.

● LAMICEL

It is claimed that a source of loss and wastage caused by damage to tailored fabric dress belts in dry-cleaning and laundering, is being effectively removed by a new patented process utilizing Lamicel for the belt interlining.

This new process, developed by Celanese Corporation of America, has been used successfully in providing weight and body in the bottoms of men's trousers, as well as lapels, facings and bottom edge of men's and women's coats. Now it is being adapted to the manufacture of matching fabric belts accompanying women's dresses, suits, coats and robes.

Belts processed by the new method are said to wash and iron perfectly and dry-clean beautifully, retaining their original body and flexibility. This new method saves leather, and the added expense of replacement when soiled belts of non-cleanable composition are used.

● WASHINGTON OFFICE

The American Viscose Corporation has opened a Washington, D. C., office, which is under the direction of Francis E. Simmons, formerly Chief, Program Branch, Textile Clothing and Leather Division of the War Production Board. The office is located at 504 Hibbs Building, 15th Street, N.W.

● ELECTED VICE-PRESIDENT

Ernest Nathan, president of the Warwick Chemical Company, West Warwick, Rhode Island, has announced that Walter E. Murray has been elected a vice president of the corporation at its annual meeting.

Walter E. Murray

Mr. Murray joined Warwick Chemical Company two years ago as sales manager of the Textile Chemical Department. In October, 1943, he was appointed manager of that department.

Mr. Murray graduated from Providence College in 1928. Upon graduation he joined the U. S. Finishing Company as plant chemist and held that position for four years. He resigned his position with this company to accept a similar position with Slater Print Works, Webster, Massachusetts, and later with Eddystone Company, Wilmington, Delaware. After serving with Eddystone for more than two years he resigned to become superintendent of Lincoln Bleachery Division of the Lonsdale Company, Lonsdale, Rhode Island. Later he became assistant technical director for the Pacific Mills in New York City.

He first became associated with Warwick Chemical Company in 1941.

● OFFICERS, A.A.T.T.

The following have been elected to office in the American Association of Textile Technologists:

President, Lieut. William F. Macia; 1st Vice President, Carl I. Taber; 2nd Vice President, Pierre Sillan; Treasurer, Ralph Gutekunst; Secretary, Bernice S. Brenner; Board of Governors, for 3 years, John Hagen, Fred Noechel and George Linton; for 2 years, George B. Suhrie; Auditing Committee, Herbert Hatch, Herman Moeller and Mark Sharples.

● AWARDED STAR

Employees of the Marcus Hook, Pa., plant of the American Viscose Corporation have received a star for their Army-Navy "E" pennant, signifying that they have continued their record of fine achievement in the production of war equipment during the six-month period since the pennant was awarded to them. The plant is 100 per cent on war work, producing extra-strength rayon yarns for use in parachutes and tires.

● COTTON CHENILLE HOUSECOAT

Photo, Courtesy Burkart-Schier Chenille Chemical Division.

The above photo illustrates what can be done with an inexpensive cotton item made from sheeting and yarns, when properly finished and dyed.

OPEN FORUM

Question

58. We are dyeing yarn on perforated tubes, which we call pressure dyeing. Consequently, the dye bath is much more concentrated than its former procedure, namely in skeins.

As a result, on heavy shades we get some sort of a coagulation after dyeing the yarn, and when this yarn is placed on a spool and passed on to the cutting-up trade, the tailors find difficulty in unwinding this thread, as it creates some sort of an electrolytic effect, thus retarding the passage of the thread through the eye of the needle.

Can you help us towards eliminating this problem? Thank you for your cooperation.—**B.S.**

Answers

Answer No. 1—I have noticed in the Jan. 3rd issue of the DYESTUFF REPORTER the inquiry (No. 58) concerning a problem on heavy shades on pressure dyeing on which I may have some helpful information that the inquirer desires.

The inquirer describes that the thread creates some sort of electrolytical effect that retards the passage of the thread through the eye of a needle. From the symptoms described I would at once suspect the accumulation of unneutralized static electricity. There are several causes for this friction and also a few remedies.

Off hand I would say that increased relative humidity would reduce the tendency to generate static. It would also in all probability increase the pliability of the thread on the spool regardless of whether an automatic or hand spooling machine was used and favor its better behavior when being used on sewing machines. The inquirer does not mention any particular type of dyeing which might have a disadvantage in regard to the methods of application, that is, vats, naphthols and sulfur colors will crock very easily if they are not in proper solution in the dyeing procedures, especially in this particular case where there are heavy shades and the liquor ratio is about 8 to 1 as against 20 or more to 1 as in skein dyeing. This crocking, or coagulating as you call it, will cause friction when the thread passes through a high speed sewing machine and will generate heat, bind the thread or give the thread this electrolytical effect. This condition also exists when direct colors are used to the point that the excess amount of dyestuff in a concentrated bath does not actually dye the threads, but lays on the outside of the fibers. These fibers will take up or exhaust just so much dyestuff from the liquor as they have an affinity for. Through the continued dyeing operation the excess dyestuff will cling to the threads.

When dyeing sulfur colors under pressure, especially on heavy shades, we must concern ourselves as to whether the dye is being taken up properly, which we adjust by the amount of sulfide and salt used. The real difficulty seems to be that the color in the bath gets out of solution, and even though a large excess of sodium sulfide is added, still the concentration of the bath, in terms of sulfide per gallon is not sufficient to cause the redissolving of the dyestuff. It is obvious that the condition of trying to dissolve colors in a large dye bath is very different from that of dissolving them in the relatively concentrated solution when the sulfur dyes are dissolved in a bucket or barrel, with the regular amount of sulfide as usual before adding to the dye bath. There is a better method to retain the sulfur color in its leuco state so as to produce better affinity for the fiber. This can be done by replacing about a quarter or a third of the sodium sulfide with a mixture of caustic soda and glucose; this will maintain the reduction and solution of the color, but it is not inclined to oxidize as quickly as sulfide. Sulfur colors all have a certain amount of their sulfur in an unstable condition. Sulfur gives the color its solubility and naturally will oxidize in time to an acid in the yarn. This can be remedied to a certain extent with sodium acetate which neutralizes the presence of the acid. Nevertheless, this condition makes the thread harsh and dry which will cause friction when in a sewing machine. I have found that the lubrication of sulfur colors with a sulfonated olive oil or any good emulsified mineral oil will eliminate this friction or electrolytical effect. Sulfur colors can be boiled out and dyed in a one bath operation, with the use of a good penetrator and the addition of Calgon or a similar compound (about 1 per cent per 100 lbs.) to the liquor. This will help break up any precipitation of the dye, along with metallic salt, on the surface of the thread.

Naphthols have some of the same characteristics as sulfur colors after dyeing. That is, the naphthols that have been developed with a fast color salt leave the yarn harsh and dry unless properly finished. The method of application of these colors is first, to impregnate in the naphthol solution, then after running the yarn for a required period of time, rinse the excess of naphthol liquor from the material. The removal of the excess of liquor is done by rinsing with from 1 to 3 per cent of caustic soda with the required amount of salt for 10 to 15 minutes and repeating once or twice to clear off the loose naphthol. Otherwise if not properly rinsed the naphtholated material would carry over loose naphthol into the developing bath. This would result in dyeings which would crock badly. Calgon (sodium hexameta phosphate), borax, or a similar product should be used in the naphtholating bath creating clear and even suspension of color. Yarns dyed with naphthols can also be finished with from 1 per cent to 3 per cent of any good lubricant.

The successful application of the vat dyestuff has been a source of great trouble to the dyer on pressure machines

where there is the presence of hard water. This holds true in the other methods of dyeing I have already mentioned. It is essential to avoid the use of hard water as far as local circumstances will permit. In this particular case regardless of hard water or not I have found that the use of borax, Calgon, Quadrafos or other compounds are valuable in aiding the processing or breaking up any scum that may form on the surface of the dye liquor where heavy shades are being dyed.

In vat dyeing the use of an excess amount of hydro creates an acid which in return will neutralize the available caustic soda causing the vat color to crock or precipitate badly. In pressure dyeing I have found that from 10 per cent to 12 per cent caustic and 6 per cent to 8 per cent hydro per 100 lbs. of yarn (according to your own conditions) have worked out satisfactory on heavy shades without the slightest indication of crocking or coagulating.

Certain vat colors are sensitive to traces of calcium and can be improved by the addition of Calgon. The presence of Calgon or a similar compound eliminates the formation of an oxidized scum in the surface of the dye creating a better dye dispersion with consequent improved penetration and leveling.—**A. R.**

Answer No. 2—In regard to your problem may I suggest using a softener after dyeing. The electrolytical effect that you speak of is most likely a static electrical charge, that is generated probably in rewinding this yarn after dyeing. By lubricating the yarn before winding there will be less friction and consequently less electrical charge generated.

The coagulation that you mentioned is due to the fact that a package of yarn is an excellent filter. Any insoluble inorganic salts present in your water supply are also present in the cotton yarn and would be deposited on the inside and outside of the package. These salts tend to make the yarn harsh and consequently make the winding more difficult. Steps to eliminate this harshness should clear up your problem.

I would hesitate to suggest any specific product that might help to eliminate this trouble without more information as to type of dyestuffs applied and assistants or chemicals used in dyeing.

This precipitation found on package dyed yarn has been a problem which practically all package and beam dyers have encountered at some time or other. Most of them have found some means of minimizing this trouble, by the use of dyeing assistants or scouring agents; and by improvements in the water supply and dyeing procedure.

I do not know of any "cure all" for this trouble. Means of eliminating this trouble in one dyehouse will not serve the same purpose in another. It is a problem which each individual dyehouse must work out for itself. I would suggest that you try some of the water softeners and dyeing assistants listed in the A.A.T.C.C. yearbook or contact your dyestuff and chemical salesmen or technical service men who, I am sure, can make valuable suggestions as to products that have been recommended for this trouble.—**D. B. E.**

Answer No. 3—In answer to your Open Forum question No. 58, we suggest that 0.5 per cent on the weight of the yarn of a cation-active softener be added to the last rinse water. This treatment will serve to lubricate the yarn and also prevent a build-up of static electricity in the yarn.—**C. E. B.**

Answer No. 4—In answer to question No. 58 in Open Forum in the January 1944 issue of the DYESTUFF REPORTER I wish to submit the following:

A more intelligent attack on the problem would necessitate further information, such as type of dyestuffs used, method of dyeing, etc. Apparently the problem as stated concerns the disposition of the coagulated matter on dyed yarn. This preciptation may appear to a great extent on heavy shades. However, I doubt that the depth of shade has any direct bearing on the coagulated matter.

Referring to a standard vat dyeing in a pressure machine the following cases of precipitation might occur (a). The suggested remedy follows (b).

1. a. Super-saturated solutions caused by excess caustic and hydro in the dye bath.

b. Careful control of caustic and hydro concentration in the dye bath.

2. a. Reaction of an alkaline soap with a glue or similar retarding agent in the dye bath.

b. Where such retarding agents are used in a dye bath, substitute a neutral detergent such as Modinal D or Gardinol LS in place of soap.

3. a. Lime soap in soap bath caused by hard water.

b. Use a water softener such as trisodium phosphate, Calgon, or Quadrafos solution in the soap bath and the subsequent rinses. In the reaction a soluble sodium salt is formed which is removed in the following water rinses.

As previously stated a more thorough investigation of the problem in question may be necessary to determine the exact nature of the coagulated matter. On the completion of any dyeing no coagulated matter should remain on the yarn if the necessary precaution and correct application of dyestuffs is followed.—**I. F.**

NOTE

If readers of the Reporter wish to communicate directly with those who answer open forum questions, and will advise us, we will be pleased to make the necessary contact. Write to Dr. L. A. Olney, Directing Editor, Lowell Textile Institute, Lowell, Massachusetts.

Aids to Research

J. E. Bullard

JUST as our present day machines and various mechanical devices have all developed from the first screw, wheel and lever used by man, so research has developed as more and better instruments and apparatus have been made available to the research worker. The human being, due to what we call the human element, lacks dependability and accuracy and without the proper instruments and apparatus is likely to reach wrong conclusions.

For example, in the case of colors, the human eye can discern 10,000 tints of red, blues, greens, browns and yellows. However, it does not necessarily follow that all human eyes can match these tints accurately. There are too many variations in the eyes of different people. The electronic recording spectrophotometer separates 200,000 of these tints and thus makes it possible to standardize dye colors and always to maintain these standards to within extremely close tolerances.

The new electron miscroscope presents possibilities in the study of the composition of dyes. When magnified 150,000 times the result of chemical reactions can be seen in much more detail and more clearly than can be the case by any methods used in the past.

Today, it is possible to create by artificial means any desired temperature, air pressure, light, humidity, etc., maintain those conditions uniform by automatic means or vary them automatically through any predetermined cycles. So, testing can be done on dyes which not only is accurate and can be duplicated but other instruments and apparatus enable the research worker to determine exactly how the dyes have been affected by the tests. All this means that specifications can be set up and dyes made to those specifications with exactitude.

Out of the research connected with war production, especially the application of what has been learned not only since the war started but since 1929, will come a great many new methods and processes which will prove of great value in production. In the long run, however, it is likely that the aids to research which have been developed will prove of greater value than all else added together.

Photography has proved a great aid to research in all scientific fields because it provided a means of registering on a photographic negative what is seen with the human eye but which cannot be remembered in detail or perhaps entirely comprehended. Astronomers have added many a star to the list of known heavenly bodies because they have used photography. Motion pictures enable a more detailed and accurate study of motion than otherwise would be possible. After the last war there was rapid development of the radio, the airplane and the dye and the chemical industries.

Each of these new developments has resulted in knowledge which has been applied in many other fields. Had it not been for the development of our dye and chemical industries it is unlikely there would be available now all the new drugs which are doing so much to save the lives of wounded soldiers. What aviation research has taught is being applied in fields which seem remote from flying. For example, it may mean that the gas turbine might become an efficient prime mover rather than merely a curiosity, and mixing machines in dye and chemical works are likely to become more and more efficient due to what has been learned from propeller research.

Of all those developments growing out of the last war, however, radio promises to prove more revolutionary and affect all research to a greater degree than any of the others. The research which gave us radio has also given us the entire field of electronics and one of the greatest advantages of electronics lies in the fact that they make it possible to remove the human element where it could not be removed by any other means. This can be expected to speed up research and to add to our knowledge, facts which would have been hidden from us if this new aid were not available.

It is quite possible that electronics will open up new fields for dyes. Speed has become a more and more important factor in production. Before the satisfactory mass production of automobiles it was necessary to develop a quick drying paint which would meet all the requirements of a motor car finish. The old oil drying paints would not do because too many coats were required and too much hand work between coats.

From the radio research of the past, therefore, has come wonderful new tools which will be used in the research of the future. It is likely that more and more of the present research instruments and apparatus will become obsolete because of new developments which are taking place. Machine tools used for making precision instruments have reached a degree of perfection which would have seemed impossible a couple of decades ago. New alloys and materials which did not exist only a comparatively few years ago are now available, at least for the making of laboratory instruments and apparatus. Powder metallurgy is making possible products and parts it might not be possible to produce in any other way and this art may prove of value in providing apparatus and instruments desired in future research.

Never in the history of the world has the research worker had at hand so much in the way of aids to help him in making new research discoveries. The variety is so great that one of the greatest problems is to keep informed in regard to what is available and to select that which will serve the given purpose best.

With all these new aids it is obvious that the next half century can witness a degree of progress which will make that of the past half century look slow and mediocre, indeed. The first screw, the first lever, the first wheel that man ever used were crude indeed. Refinement had to be

gradual, slower at the start but becoming faster as more skill was attained and more facilities were available. It has been the same in scientific and industrial research. The search for knowledge has been limited by the limitations of the instruments and the apparatus available. Those limitation are less now than ever before.

There is only one limitation now which needs to be feared and that is the limitations artificially created by the government. With so many aids to research being developed that an individual research worker might find it difficult to keep informed in regard to all of them and at the same time continue his research work, it is obvious that any such bureau as the Kilgore Bill (S. 702) proposes, which would be composed of an administration organization of 31 to 33 people, only five of which would be scientists or technologist, could go a long way toward retarding all future progress in research. At the end of the last war there were only about 500 industrial research laboratories in the United States. By the start of this war the number had increased to around five times that number. In the next 25 years it can be expected that research will continue to expand. It cannot if all research is to be directed by five scientists and technologists who are appointed because of political reasons and 25 or more others who may know nothing at all about research and its value.

Our patent system together with freedom of initiative and action on the part of individuals have been largely responsible for the marked progress we have made in the past. They can be equally responsible in the future. Not only have more than two and a quarter million inventions been patented in this country in the 153 years of our patent laws but the major epoch making inventions which include among others the telegraph, the telephone, the electric light, the reaper, the typewriter, the adding machine, the trolley car, the air brake, the sleeping car, the power elevator, the sewing machine, the phonograph and the airplane were made by American men of genius.

All the other aids to research have been and still are available to workers in all parts of the world. Only in the United States have we or do we find the aids of patent protection and freedom of action to the degree that the maximum progress is made. Retain these aids and there is every reason to believe that the progress made in the coming century will make the present look as old fashioned as a century or more ago looks now. Progress, once started and not held back by artificial means has a way of accelerating. Each quarter century shows more advance than did the quarter century which preceded it. No person, however, can foretell what will result from any given research task. No group can select and limit the tasks, the projects, without stalling progress. A very considerable percentage of our past inventors have accomplished what some leading scientists have pronounced impossible. They would have been prevented from going ahead with their work had all planning and controls over planning been left in the hands of these leading scientists.

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The rate for "Position Wanted" advertisements in this column is 2 cents a word—with a minimum of 50 cents per insertion. For all other types of advertisements—i.e., help wanted, machinery or supplies for sale—the rate is $6.25 per column inch or less per insertion.

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WANTED: Textile chemist with experience in testing for permanent position in New York laboratory. Write Box No. 505, American Dyestuff Reporter, 440 Fourth Ave., New York 16, N. Y.

WANTED: Skein dyer, some knowledge of direct and vat dyeing on cotton and rayon yarns. Also in the market for several used Klauder Weldon or Giles skein dyeing machines. Write Box No. 506, American Dyestuff Reporter, 440 Fourth Ave., New York 16, N. Y.

POSITION WANTED: Salesman, 36 years old. 15 years experience in all phases of textile dyeing and processing. Textile school graduate. Draft status IIB. Location immaterial. Full details on request. Write Box No. 514, American Dyestuff Reporter, 440 Fourth Ave., New York, 16, N. Y.

CHEMIST WANTED: Chemist or chemist assistant; by a company manufacturing industrial oils, textile oils and textile chemicals. Permanent post-war opening. In reply please give age, education, experience, draft status and salary expected. A personal interview will be arranged. Write P. O. Box 1345, Providence, R. I.

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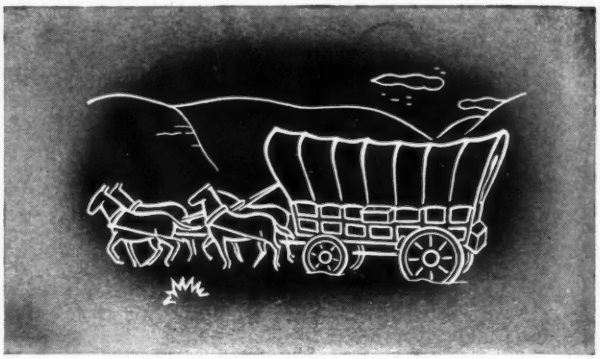

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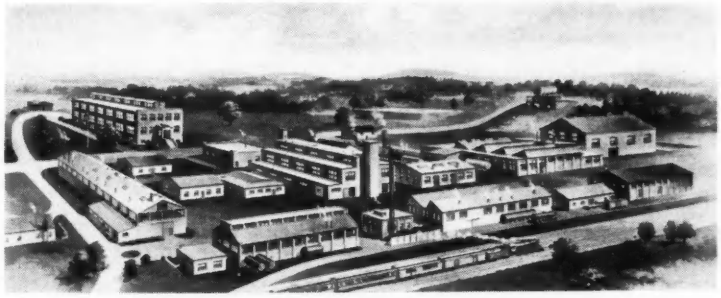

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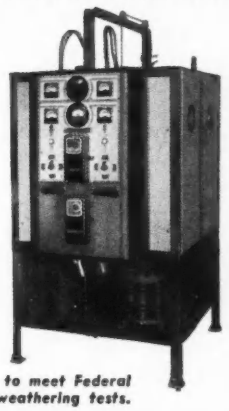

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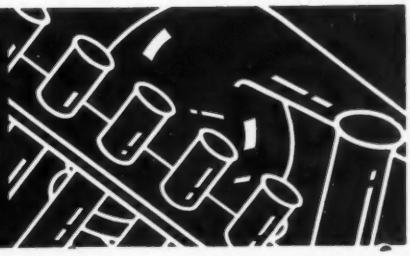

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